Government of Karnataka

INFORMATION TECHNOLOGY/ INFORMATION TECHNOLOGY ENABLED SERVICES (IT - ITeS)

Job Role : Domestic Data Entry Operator

TEXT BOOK



9th Standard

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National Skill Qualification Framework

NSQF LEVEL 1

Samagra Shikshana Karnataka
and
Karnataka Text Book Society (R.)

FOREWORD

All Education commissions recommend bringing work and education into the domain of the curricular, infusing it in all areas of learning while giving it an identity of its own at relevant stages. It explains that work, transforms knowledge into experience and generates important personal and social values such as self-reliance, creativity and cooperation. Through work one learns to find one's place in the society. Work involves interaction with material or other people (mostly both), thus creating a deeper comprehension and increased practical knowledge of natural substances and social relationships.

Through work and education, school knowledge can be easily linked to learners' life outside the school. All the previous Education commissions emphasized on Vocational Education and Training (VET) for all those children who wish to acquire additional skills and/or seek livelihood through vocational education after either discontinuing or completing their school education. VET is expected to provide a 'preferred and dignified' choice rather than a terminal or 'last-resort' option. NCERT has attempted to infuse work across the subject areas and also contributed in the development of the National Skill Qualification Framework (NSQF) for the country, which was notified on 27 December 2013.

It is a quality assurance framework that organizes all qualifications according to levels of knowledge, skills and attitude. These levels, graded from one to ten, are defined in terms of learning outcomes, which the learner must possess regardless of whether they are obtained through formal, non-formal or informal learning. The NSQF sets common principles and guidelines for a nationally recognized qualification system covering Schools, Vocational Education and Training Institutions, Technical Education Institutions, Colleges and Universities. It is under this backdrop that Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), Bhopal, a constituent of NCERT has developed learning outcomes based modular curricula for the vocational subjects from Classes IX to XII. This has been develop under the Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education of the Ministry of Education

This textbook has been developed as per the learning outcomes based curriculum, keeping in view the National Occupational Standards (NOS) for the job role and to promote experiential learning related to the vocation. This will enable the students to acquire necessary skills, knowledge and attitude.

These text books from PSSCIVE were vetted by a team of subject experts and resource persons in the context of setting a state specific content to ensure more relevancy to the world outside the school.

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CHAIRMAN NOTE:

In a rapidly evolving world, the importance of vocational education has never been more pronounced. As industries adapt to new technologies and changing market demands, the need for skilled professionals who are equipped with practical knowledge and hands on experience becomes critical. The series of vocational text books aims to bridge the gap between theoretical concepts and real world application, providing learners with the tools they need to succeed in their chosen fields.

Each text book in this series has been meticulously crafted to align with industry standards and best practices. By combining foundational knowledge with practical skills we aim to empower among students to not only understand their disciplines but also to excel in them. Our contributors are experienced educators, Industry professions and subject matter experts have collaborated to ensure that the content is both relevant and engaging.

The structure of each book is designed to facilitate effective learning among students. All Key points are presented in a clear and concise manner, complemented by real life case studies, practical exercises and assessments that encourage critical thinking and problem-solving. We believe that learning is most effective when students can see the direct application of their studies in Professional settings.

We also recognize the diverse backgrounds and learning styles of our students. To that end, we have included a variety of teaching tools, including visual aids, Interactive elements, and online resources, to support a more personalized learning experience. Our goal is to make vocational education accessible and engaging for all learners, regardless of their starting point.

As you embark on this educational journey we encourage you to approach these text books with an open mind and a willingness to explore new ideas. The skills and knowledge you gain will not only prepare you for immediate employment but will also serve as a foundation for lifelong learning and professional development.

We extend our gratitude to all those who contributed to this text books, and we hope that these textbooks will inspire and equip the next generation of skilled professionals.

Welcome to the future of Vocational Education.

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ABOUT THE BOOK

The IT–ITeS sector is growing at a fast pace and is a very important industry in India and abroad. In the growing business opportunities in various domains around the globe, there is a huge transfer of information from one place to another. Large amount of data are churned thus creating a need for proper management of the data that are collected. The companies also have to concentrate on their core activities and resort to outsourcing the data entry process. The rapid growth in the IT industry along with the entry of many small and large outsourcing companies in this area, has led to a huge demand for trained personnel for various job roles, such as Data Entry Operator.

Domestic Data Entry Operators in the IT-ITeS Industry are also known as a Data Entry Operators. These individuals are responsible for providing daily work reports and work on hourly basis. They are also responsible for electronic entry of data from the client site on to the office site or vice-versa. Individual tasks vary depending on the size and structure of the organisation. This job requires the individual to have thorough knowledge of various technology trends and processes as well as have updated knowledge about database management systems and IT initiatives. The individual should know fast and accurate typing or data encoding. This job involves working on a computer, and appropriate software to enter accurate data regarding different issues like retrieving data from a computer or to a computer.

The textbook for the job role of "Domestic Data Entry Operator" has been developed to impart knowledge and skills through hands-on learning experience, which forms a part of the experiential learning. Experiential learning focuses on the learning process for the individual. Therefore, the learning activities are student-centered rather than teacher-centered.

The textbook has been developed with the contribution of the expertise from the subject and industry experts and academicians for making it a useful and inspiring teaching-learning resource material for the vocational students. Adequate care has been taken to align the content of the textbook with the National Occupational Standards (NOSs) for the job role so that the students acquire necessary knowledge and skills as per the performance criteria mentioned in the respective NOSs of the Qualification Pack (QP). The textbook has been reviewed by experts so as to make sure that the content is not only aligned with the NOSs, but is also of high quality. The NOSs for the job role of Domestic Data Entry Operator covered through this textbook are as follows:

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1. SSC/N3022 Undertaking data entry services

2. SSC/N9001 Managing work to meet requirements

3. SSC/N9003 Maintaining a healthy, safe and secure working environment

Unit 1 of the textbook explains the various career opportunities within the ITITeS sector. It then details the various IT enabled services. Maintaining the work area as well as the health and safety aspects within the IT service sector are also covered in the first unit. Unit 2 will help students to learn typing skills using a typing tutor. It also covers the ergonomics and sitting posture, to put the student on a firm footing in terms of health aspects associated with computer systems. Unit 3 deals with basic Word Processing skills so that students can learn to enter and edit the text to prepare the document. Unit 4 deals with basic spreadsheet skills to prepare a worksheet so that students can learn to create and manipulate the data in the spreadsheet. Unit 5 covers the basic presentation skills to prepare a slide presentation so that students can learn to create presentations.

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Do You Know ?

According to the 86th Constitutional Amendment Act, 2002, free and compulsory education for all children in 6-14 year age group is now a Fundamental Right under Article 21-A of the Constitution.

EDUCATION IS NEITHER A PRIVILEGE NOR FAVOUR BUT A BASIC HUMAN RIGHT TO WHICH ALL GIRLS AND WOMEN ARE ENTITLED



Give Girls Their Chance !

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Introduction to IT-ITeS Industry

Introduction

Information and Communication Technology (ICT) has become one of the basic requirements of the modern society. In today's digital era, we use mobile devices to perform the tasks of our daily life. It is difficult to think of any event without the use of digital devices. Information Technology (IT) is one of the world's fastest growing economic activities, which envisages easier flow of information at various levels in the desired pattern. The Information Technology enabled Services (ITeS) sector has not only changed the way the world looks at our country but has also made significant contributions to the Indian economy. This session will introduce the basic concepts and ideas related to Information Technology (IT) and IT enabled Services (ITeS).

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Information Technology

Information Technology (IT) means creating, managing, storing and exchanging information. IT includes all types of technology used to deal with information, such as computer hardware and software technology

used for creating, storing, and transferring information. Computer takes data as input, processes it and produces the results as output. The information is the result of data processing. Data refers to the facts or raw material, which are processed to get the information. Number of boys and girls in a class is a factual data of the classroom. This is an example of data related to the students in the class. Some conclusion can be drawn based on the data. This conclusion is information. The decisions are taken on the basis of data and information. IT is a tightly integrated part of business. Computers and information systems are an essential part of every business today. Like accounting and legal, every business needs to invest in technology to compete. IT has several benefits for a business, such as it helps in reaching more potential customers, developing a business relationship with potential customers, streamlining operations, reducing costs, improving efficiency, maximising profit, minimising waste, providing better service to customers, supporting better relationships with key partners, and allowing customers to better guide the business.

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Information Technology enabled Services (ITeS)

Information Technology that enables the business by improving the quality of service is Information Technology enabled Services (ITeS). ITeS is also called web-enabled services or remote services that cover the entire operations which exploit Information Technology for improving the efficiency of an organisation. These services provide a wide range of career options that include opportunities in all offices like call centres, payrolls, logistics management, revenue claims processing, medical billing, coding, medical transcription, legal databases, back office operations, content development, GIS (geographical information system), web services and Human Resource (HR) services, etc.

ITeS is defined as outsourcing of processes that can be enabled with information technology and covers diverse areas like finance, HR, administration, healthcare, telecommunication, manufacturing, etc.

E-enabled services radically reduce costs and improve service standards. In short, Internet service provider aims to provide B2B e-commerce solutions. ITeS offers different services integrated in a single delivery mechanism to end users. The services may include: Medical Transcription, Customer Relationship Management, Data Entry and Data Processing, Software development, Data Warehousing, IT Help Desk Services, Enterprise Resource Planning and Telecommunication Services.

BPO services

Business Process Outsourcing (BPO) services means performing business operations through an outside service provider. BPO also comes under IT services as IT plays a very useful role in optimising the business performance. The BPO industry is highly organised and hence various kinds of jobs are outsourced in India. India has the expertise in reducing costs with firm control on the quality of the service.

Some of the BPO services are as follows:

(a) Financial and Accounting Services
(b) Taxation and Insurance Services
(c) E-Publishing and Web Promotion
(d) Legal Services and Content Writing
(e) Multimedia and Design Services
(f) Document Management Services
(g) Software Testing Services
(h) Healthcare Services

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BPM industry in India

The IT BPM (Business Process Management) industry has been fueling India's growth. In addition to contributing towards the country's Gross Domestic Product (GDP) and exports, the growth of the IT BPM industry has provided India with a wide range of economic and social benefits which includes creating employment, raising income levels, and promoting exports. It has placed India on the world map with an image of a technologically advanced and knowledge-based economy. This sector attracts amongst the largest investments by venture

capitalist and has been credited with enabling the entrepreneurial ventures of many in the country. The IT-BPM industry has almost doubled in terms of revenue and contribution to India's GDP over the last decade (2008–18). BPO Service Industry is doing exceptionally well in India because of the following advantages:

(a) BPO service providers in India invest in hi-tech hardware and software to deliver the best of services. They follow quality checks to ensure error free and exceptional service.

(b) Government of India is encouraging the BPO Industry in India by providing necessary infrastructure and logistical support.

(c) BPO Industry in India is highly developed and capable of delivering numerous types of BPO services with exceptional quality.

Structure of the IT-BPM industry

The organisations within the IT-BPM industry are categorised along the following parameters:

- Sector the organisation is serving
- Type and range the organisation provides
- Geographic spread of operations
- Revenues and size of operations

(a) Multi-National Companies (MNCs): MNCs have their headquarters outside India but operate in multiple locations worldwide including those in India. They cater to external clients (both domestic and/or global).

(b) Indian Service Providers (ISPs): ISPs started with their operations in India. Most of these organisations have their headquarters in India while having offices in many international locations. While most have a client base, which is global as well as domestic, there are some that have focussed on serving only the Indian clients.

(c) Global In-house Centers (GIC): GIC organisations cater to the needs of their parent company only and do not serve external clients.

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This model allows the organisation the option to keep IT Operations in-house and at the same time take advantage of expanding their global footprint and offering opportunities for innovation in a cost effective manner.

IT applications

In technologically developed nations, Information Technology has become a part of everyday life. For a user, computer is a tool that provides the desired information, whenever needed. The use of computerand Information Technology can be observed at home, workplace, in the modern service industry and in all aspects of our life. It includes listening to music, watching movies, playing games, doing office work, chatting and sending messages, managing daily planner, reading books, paying utility bills, booking ticket to travel, bank operations, etc. Computers and ICT is used in industries, in offices, and in house also. The various application are as are business, banking, insurance, education, marketing, healthcare, engineering design, military, communication, animation, research, agriculture and government.

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Fig. 1.1: IT applications

IT in Everyday Life (Fig 1.1)

A personal computer (PC) is used to work at home, to do household accounts, play games, surf the web, use



Fig. 1.2: IT in home computing



Fig. 1.3: IT in everyday life



Fig. 1.4: IT in library

e-mail, listen music, and pursue a range of other hobbies. PC is used to play games too. Games include action games, role playing games, puzzles and many more. A PC with a CD-ROM drive, sound card, and speakers can play audio CD. A computer can be used from home to study a wide range of online training courses. Computers and digital devices are now used for online shopping and e-commerce.

In our daily life, we use washing machines, microwave oven and many other products using which have embedded software. We can store all the information about our important work, appointments schedules and list of contacts in a computer. Computer is, therefore, playing a very important role in our lives and now we cannot imagine the world without computers.

IT in library (Fig 1.2)

Nowadays many libraries are computerised. Each book has a barcode associated with it. This makes it easier for the library to a keep track of books and the availability of a specific book. Computer software is used to issue and return books.

IT at workplace (Fig 1.3)

In the office environment, computers and computer applications are used to perform office work more effectively.

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In assembly-line industries, where attention to detail, speed and efficiency are important, automation is becoming more and more common. Internet and Office applications form the basis of modern business.



Fig. 1.5: IT at workplace

IT in education (Fig 1.4)

Computers and Information Technology are extensively used in education for teaching-learning and assessment. IT is used for creation and transmission of information in various forms including still pictures, audio, video and animation to the learners. The learning becomes easy and accessible through IT. A lot of teaching resources are available for teachers to teach in a better way. Online assessment helps to assess the students without any bias. The students, teachers, educational administrators and all stakeholder in the education sector have benefitted with the integration of IT in education.



Fig. 1.6: IT in education

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(a) Information and Communication Technology in the classroom

There are many ways in which the ICT is used for education in the classroom, such as

- E-learning classrooms;
- Smart-board presentations;
- Videos on experiments;
- Creation of images and video;
- Desktop publishing of magazines, letters and documents;
- Educational games;
- Gathering educational information on the Internet;

(b) Education — Anywhere anytime

Any student in India can access the NCERT books online through the website www.epathshala.nic.in or mobile app.

Apart from this, there are a variety of websites and mobile apps to access educational resources on any topic.

We can also contact a teacher or a trainer via Internet to use WBT (Web-based Training). In this way education has reached the far flung areas by reaching the unreached.

(c) Teaching aids and media

ICT is used mostly as a teaching aid in schools to

- Use pictures, animations and audio-visuals to explain subjects that are difficult to explain.
- Make the lessons interesting using presentations.
- Organise lessons using the computer.
- Obtain the information relevant to the subjects.

(d) Learning Management System (LMS)

A Learning Management System (LMS) is being used by many countries to manage school systems. A student or teacher can register himself/herself on the official website to access LMS and can get many services from LMS. The student can be benefited by using LMS, as it can be used to

- Learn lessons anytime and anywhere.
- Submit queries, get replies and submit comments through forums.
- Participate in co-curricular activities via video.
- Parents get benefitted by being able to monitor the progress of their children.

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Fig 1.7: IT in entertainment

IT in entertainment (Fig 1.5)

Information Technology has had a major impact on the entertainment industry. Internet is a major source of entertainment. One can download and view movies, play games, chat, use multimedia, incorporate visual and sound effects using computers, etc. Digital broadcasting has changed the way we experience television, with more interactive programming and participation.

IT in communication (Fig 1.6)

Communication is a mean to convey messages, ideas, pictures, or speeches. Modern communication like email, chatting, FTP, telnet and video conferencing makes use of the computer system.



Fig. 1.8: IT in Communication

IT in business

Computers are used in business organisations for payroll calculation, budgeting, sales analysis, financial fore casting, managing and maintaining stocks. A lot of business transactions happen through Internet called e-commerce. IT facilitates marketing, customer visit, product browsing, shopping basket checkout, tax and shipping, generating receipt and processing order. E-commerce offers services pertaining to processing inventory management,transactions, documentation, presentations, and gathering product information. Smart cards, such as credit cards and debit cards are used in shops. These cards have a metallic strip on which the user's Personal Identification Number (PIN), and account number is stored and can be read when it is passed through a special reader. Airlines use large-scale computer applications for their reservations system, both in the airports and in central reservations call-centers. Other businesses that have large-scale computing requirements are insurance claims systems and online banking, both of which have large numbers of users and operators interacting across one system.

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IT in science and engineering

Scientists and engineers use computers for performing complex scientific calculations, Computer Aided Design (CAD) or Computer Aided Manufacturing (CAM) applications are used for drawing, designing and for simulating and testing the designs. Computers are used for storing large amounts of data, performing complex calculations and for visualising

3-dimensional objects. Complex scientific applications like rocket launching, space exploration, Robotics, etc., are not possible without the computers.

IT in banking

Computer is an essential part of the modern banking system. Every activity of a bank is now online. The customer's data and transactions are recorded by computers. Recurring deposits (e-RD), Fixed deposits (e-FD), money transfer from one account to another (NEFT, RTGS, IMPS, UPI), online transactions are done using Internet. Capital market transactions, financial analysis and related services are available in online platforms. Bank customers use Automated Teller Machines (ATM) for cash deposits and withdrawal, or to view current balance.

IT in insurance

Insurance companies keep all records up to date with the help of computer database. Procedures for continuation of policies, starting date, date of next installment, maturity date, interest dues, survival benefits, and bonus are declared by using computers in insurance companies. Many online policies are also available which can be purchased by using the website of insurance companies and claims are settled online too.

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IT in marketing

In marketing, computers are used for advertising of products, by using arts and graphics facility it is possible to create interesting advertisements of various products so that the goal of selling can be achieved. Using e-commerce websites, people can purchase items even sitting at home.

IT in Healthcare

ICT is used in the health sector in numerous ways. Hospital Management System is used to maintain and manage patients' records as well as various activities pertaining to hospital administration. The computerised



Fig. 1.9 (a) MRI machine

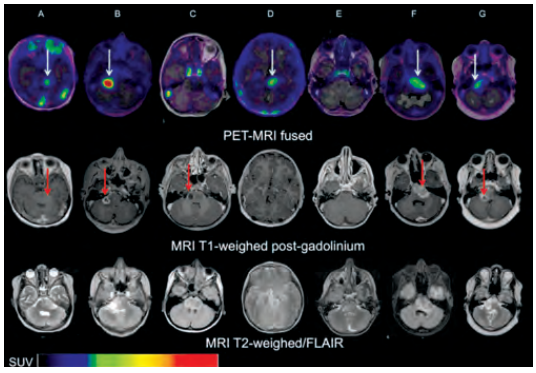


Fig. 1.9 (b) Detailed images

machines are used for ECG, EEG, Ultrasound and CT Scan. The variety of measuring instruments and surgical equipment are used to monitor patients' conditions during complex surgery. Expert system is used for diagnosis. Healthcare manufacturing companies use computers to aid the production of diagnostic tools and instruments. Computers are an integral part of laboratories and dispensaries. They are used in scanning and diagnosing different diseases. Todays IT can even be used to perform surgeries remotely.

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(a) Use of ICT in diagnosis

With the advancements in computer hardware and software technology, various high-tech machines are used in the diagnosis and treatment of critical diseases. Using expert system, diseases can be diagnosed at the early stages and patients can be given treatment accordingly. Some of these machines are:

(i) **Computerised Axial Tomography Machine (CAT):** Using this machine three-dimensional (3D) images of different parts of the body can be made. These images are helpful in the diagnosis of diseases.

(ii) **MRI (Magnetic Resonance Imaging Machine) (Fig 1.7(a) and (b)):** MRI machines are used to give the digital impression of internal organs of the body by using strong magnetic fields and radio waves. The digital images are very helpful in the detection and in deciding the treatment of diseases.



Fig. 1.10 (a) ECG Machine

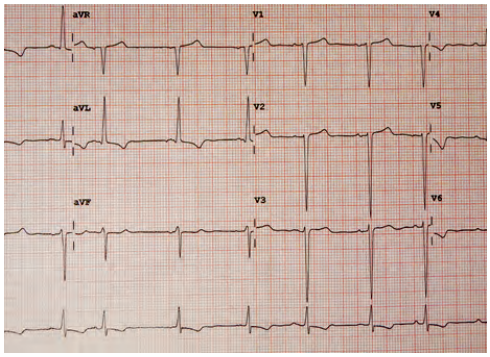


Fig. 1.10 (b) ECG Graph



Fig. 1.11: Cardiac Screening Machine and Display



Fig. 1.12: EEG Machine and Display



Fig. 1.13: Sugar Testing Machine

(iii) **Electrocardiogram (ECG) Machine (Fig 1.8(a) and (b)):** The ECG machine is used to monitor the heartbeat. When the heart pumps blood to different parts of the body some electrical impulses are produced. This machine records the electrical impulses and showsit in the form of a graph.

(iv) **Cardiac Screening Machine (Fig. 1.9):** This machine displays the physiology of the heart and it displays the movements inside the heart. Through this machine it is possible to diagnose problems of the heart, such as thinning of veins and then recommend treatment.

(v) **EEG (Electro - Encephalography) Machine (Fig. 1.10):** This machine is used to record the activities of the brain. The small electrical probes attached to the head receive the electrical impulses of the brain and display them on a computer screen. This device can retrieve the data in both states whether a patient is awake or asleep.

(vi) **Blood Sugar Testing Machine (Fig 1.11):** This device analyses a sample of blood and determines the blood glucose level.

(vii) **Blood Pressure Measuring Machine (Fig 1.12):** This device which is worn as a wrist band can measure the blood pressure of a person at rest or when he/she is involved in some physical activity.

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IT in the government and public service

The government uses large-scale computer applications in its daily operations and is actively encouraging e-governance practices. Digital India and e-governance initiatives of Government of India are best examples of this. Government and Non-Governmental Organisations (NGOs) as well as International Government Agencies use ICT applications to communicate and provide various services to the people and is called as e-governance. There are various official web portals of the Government of India for e-governance. There are various advantages of e-governance.



Fig. 1.14: Measuring Blood Pressure

The Income tax department, sales tax department, preparation of voters list, preparation of PAN card makes use of the computer system. Many government services are available online. Electricity bills can now be paid online. The government uses electronic voting for elections, by replacing the traditional voting slip and ballot box. People can enroll them selves in the electoral roll through the State Election Commission portal. Computers are common-place in modern society, and tend to make previously laborious manual tasks of data entry much simpler and quicker.

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Practical Exercise

1. Explore the impact of IT and ITeS in various areas in day-to-day life.
2. Visit Indian government websites, such as the official web portal of Department of School Education, MHRD, Government of India. Make a list of all the valuable information and the services you could obtain yourself.
3. Make a list of e-government services that are provided by other countries.
4. Visit the various websites and list the areas where ICT is used.
5. Identify the advantages of using ICT over conventional methods in various areas.
6. Observe other instances where ICT is used in business and manufacturing and compile a list.

Check Your Progress

A. Give an example of the use of IT in the following areas. Avoid already discussed examples.

Teacher Practice	Example
Classroom content transaction	
Assessment of students	
Library management	
Student record management	

B. Short answer questions (50 words)

1. What do you understand by the term IT and ITeS?
2. What are the pros and cons of using ICT?
3. What precautions are required to ensure that ICT use is safe?
4. What are the four main sub-sectors in the IT-BPM industry?
5. Give examples of use of IT in everyday life.
6. How is IT used in libraries?
7. What are the various processes of education where IT is used?
8. Which software are used in digital communication?
9. For what purpose is IT used in business?
10. Which are the prominent areas where IT is used in science and engineering?
11. List the various uses of IT in a banking system.
12. Which are the different areas of healthcare where IT is used? And how?
13. List any 5 websites of the Indian government which provide IT enabled services to the people.

A. Fill in the blanks:

1. ITeS means _____ .
2. Data refers to _____.
3. Conclusions from data are called as _____
4. The expanded form of GIS is _____.
5. The expanded form of BPM is _____.
6. The full form of LMS is _____
7. MRI machine is used to produce _____ of the internal organs of human body.
8. ECG machine is used to monitor _____.
9. The output from ECG machine is _____

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B. Multiple choice questions:

1. The full form of ICT is _____
   a. Information and Communication Testing
   b. Information and Communication Technology
   c. Internet and Communication Testing
   d. Internet and Communication Technology

2. Information Technology (IT) means creating, managing, _____ and _____ information.
   a. storing and exchanging
   b. sharing and exchanging
   c. storing and deleting
   d. sharing and erasing

3. Processed data is called as _____

   a. Raw data
   b. raw information
   c. Information
   d. Instructions

4. ITeS is also called as
   a. web-enabled services
   b. Both a & b
   c. remote services
   d. None of these

5. The expanded form of BPO is _____
   a. Business Program Out scanning
   b. Business Process Outsourcing
   c. Business Program Outsourcing
   d. Business Process Out scanning

6. The structure of IT-BPM industry depends upon _____ parameters.
   a. Sector serving
   b. Type and ramge of services
   c. revenue
   d. All of these

7. The machine is used to record the activities of the brain is _____.
   a. ECG
   b. MRI
   c. EAG
   d. EEG

8. The use of Computerised Axial Tomography Machine (CAT) is to get _____ of different parts of a human body.
   a. 3-D
   b. 2-D
   c. Graphical
   d. all of these

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C. Match the following:

Column A	Column B
i. Multinational Companies (MNCs)	a. headquarters in India
ii. Indian Service Providers (ISPs)	b. In house operations
iii. Global In-house Centers (GIC)	c. headquarters outside India



Data Entry and Keyboarding Skills

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Introduction

In order to enhance operational skills in the use of computers, knowledge of efficient and effective keyboarding skills and typing ergonomics has become inevitable today. With consistent, sincere efforts and controlled environment, we can master keyboarding skills and acquire high speed. Keying data into the computer quickly and accurately, thus, becomes easy.

There are various methods of typewriting. In this unit, we will study about various types of keys, typing ergonomics and positioning of fingers on the keyboard according to touch method of typewriting and use of typing software for learning keyboarding skills.

Keyboarding Skills

Keyboard is the most common text-based input device. Computer keyboards are similar to electronic typewriter keyboards with additional keys. A keyboard generally has more than 100 keys. Each key of a keyboard corresponds to a single symbol. Some symbols require pressing and holding several keys simultaneously or in sequence. It allows entering alphabets, digits and

symbols into the computer. Simultaneous key press can produce actions or computer commands. The touch method of typewriting is a method of typing without using the sense of sight to find the keys. There is no need to search the key while typing and one has to move only the finger which is needed to strike a key.

A touch typist knows the location on the keyboard through muscle memory. Touch typing typically involves placing the eight fingers in a horizontal row along the middle row of the keyboard (the home row). Touch typing can be done with two hands or by using a single hand also.

A touch typist starts by placing his or her fingers on the "start position" in the middle row and knows which finger to move and how much to move it for reaching any required key. It is important to learn placing fingers into the start position blindly as the hands are frequently raised from the keyboard to operate the line feed level or the computer mouse.

Typing speed generally improves with practice. The typing speed can be increased gradually and speeds of 60 WPM (words per minute) or higher can be achieved.The rate of speed increase varies between individuals. Many websites and software products (e.g., Rapid Typing Tutor) are available to learn touch typing and many of these are free. There are many such software available which are free of cost and are customised to learn typing efficiently and effectively.

Keyboards are also used for computer gaming, either regular keyboards or keyboards with special gaming features.

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Types of keys

Though there are several input devices viz. mouse, touchscreen, character, voice recognition, etc., used for giving input to the computer, the use of keyboard is the most common method adopted for input of data into a computer. A computer keyboard contains thefollowing types of keys:

- **Alphanumeric keys: A**lphabets (A-Z) and numbers (0-9).

- **Punctuation keys:** Keys associated with punctuation, such as the comma (,), period (.), semicolon (;), brackets ([]), and parenthesis ({ }) and so on. Also, mathematical operators such as the plus sign (+), minus sign (-), and equal sign (=).
- **Alt key:** Short for Alternate, this key is like a second control key.
- **Arrow keys:** There are four arrow keys to move the cursor (or insertion point) up (↑), down (↓),right (→), or left (←). Arrow keys can be used in conjunction with the
- **Shift or Alt keys:** To move the cursor in more than one position at a time.
- **Backspace key:** Deletes the character just to the left of the cursor and moves the cursor to that position.
- **Caps Lock key:** It is a toggle key, which when activated, causes all alphabetic characters to change from lowercase to uppercase and vice-versa.
- **Ctrl key:** The control key is used in conjunction with other keys to produce control characters.The meaning of each control character depends on which program is running.
- **Del key:** The Del key deletes the character at the current cursor position, or the selected characters, but does not move the cursor. For graphics-based applications, the delete key deletes the object to the right of the cursor.
- **Enter key or Return key:** It is used to enter commands or to move the cursor to the beginning of the next line.
- **Esc key:** The Escape key is used to send special codes to devices and to exit (or escape) from programs and tasks.
- **Function keys:** Special keys labelled F1 to F12. These keys have different meanings depending on which program is running.

When a key is pressed, an electrical contact is formed. These electric signals are transmitted to a

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micro-controller in a coded form to the computer describing the character which corresponds to that key. Keyboards are used for text-based applications. In the modern GUI based operating systems and applications, more sophisticated pointing devices are evolved, such as mouse, joystick, scanner, etc.



Fig. 2.1: Numeric Keypad

Numeric keypad

Numeric keypad (Figure. 2.1) is used when enormous numeric data is to be entered. This keys are arranged just likea simple calculator. It is normally located on the right- hand side of computer keyboard. It contains numbers 0 to 9, addition (+), subtraction (–), multiplication (*) and division (/) symbols, a decimal point (.), Num Lock and Enter keys. Numeric keypad may also work on dual mode. On one mode, it represents numbers and on the other mode, it contains various keys like arrow keys, page up, page down, etc. NumLock is provided to switch between the two modes. Usually, some of the keyboards of laptops do not have a numeric keypad.

Home keys

Alphabets ASDF are home keys for the left hand (index finger on F) and; (semi-colon) LKJ for the right hand (index finger on J). The fingers are trained to make the correct movement to other keys and each finger returns immediately to its respective home key after it has depressed the corresponding key in any other row.

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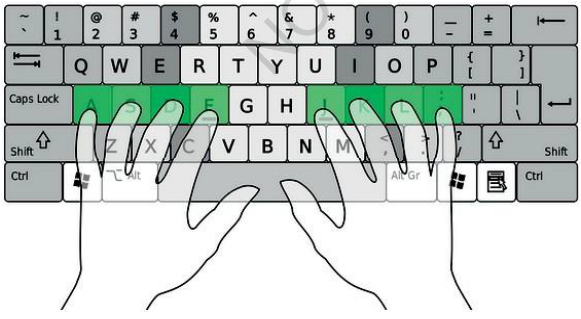


Fig. 2.2: Position on Home Row

Guide keys

On a computer keyboard, keys'F' and 'J' are called guide keys for left and right hand, respectively. Both contain a small raised tangible mark with the help of which the touch typist can place the fingers correctly on the home keys. Figure 2.2 shows the position of fingers of both hands on the Home Row.

Typing and deleting text

For typing text in a document:

- click on the letters on the keyboard.

For deleting text in a document:

- use the backspace key or the delete key. The backspace key will remove text from behind (to the left of) your cursor while the delete key text in the front, i.e., the right of the cursor.

For typing numbers in a document:

- use the numeric keypad on the top row on the keyboard.

Typing capital letters

To type capital letters, switch ON the Caps Lock by pressing the key before typing. A light will glow on the top right side corner of the keyboard that shows Caps lock is on. To switch it off, tap on the Caps lock key before typing.

Typing symbols

Some keys shift in the keyboard have two characters written on it. Press and hold the key and then press the key with the required symbol. There are two Shift keys on the keyboard — to the bottom left and another to the right of the letters.

Typing sentences

To get space between typed words, press the space bar once and then type the next word.

Creating new lines and spaces between paragraphs

The Enter or return key is used to move the cursor new line or create spaces between paragraphs. Make sure that the cursor is flashing on a new line. It is also used to authorise commands in command mode.

Guide for typing

Cursoris the small line that flickers at the bottom in a line while typing. The cursor serves as a guide for typing. They can be used to move the position of the cursor. Position of the cursor can also be moved by clicking the mouse at the required position.

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Pointing devices

Instead of typing, some items can be selected directly from computer screen. This can be done using point and draw devices, such as mouse. Not only to select, but drawing of line, curve and shapes is also possible with such devices. Other examples of point and draw devices are joystick, light pen, touch pad or track ball and touch screen.

Mouse

Mouse is a pointing device used to point at a particular place on the screen and select in order to perform one or more actions (Figure 2.3). It can be used to select menu commands, resize windows, selecting actions from screen icons, etc.

A mouse primarily comprises of three parts: the buttons, the handling area, and the rolling object (scroll wheel). By default, the mouse is configured to work for the right hand. Left-handed persons can change the settings as per the needs.

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Fig. 2.3: Mouse Buttons

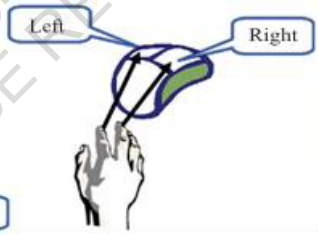


Fig. 2.4 (a) How to Hold the Mouse



Fig. 2.4 (b) Position of Fingers while Holding the Mouse

Put the right hand on the mouse, the index finger goes on the left button, and the middle finger goes on the right button. The incorrect and correct positioning of fingers on the mouse is shown in Fig 2.4(a) and (b). Hold the mouse with thumb and ring finger. To click, press a mouse button lightly and release it immediately. The scroll wheel is used to scroll up, i.e., down in the screen.

Mouse pointer

The mouse pointer allows to point on the screen. The pointer changes as shown below.

This mouse pointer will appear as you move the mouse around the screen (it can also be used to move things).

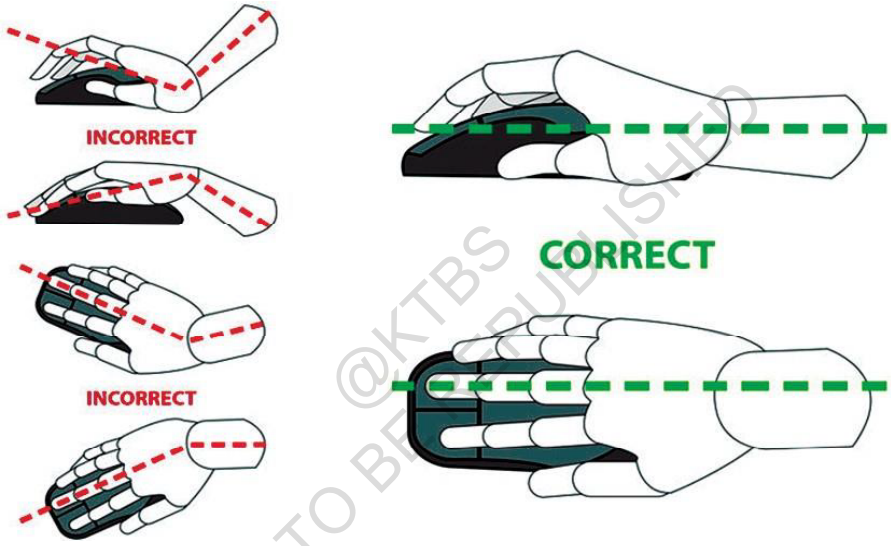


Fig. 2.4: Correct and Incorrect positioning of Fingers on the Mouse

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It will appear as you move it around the screen.

This mouse pointer will appear as you move the mouse around the screen, particularly if it is over text. (This shape can also be seen when you are about to type text.).

This mouse pointer appears when the mouse is moved over a web link also known as hyperlink. Click the left mouse button once to follow the hyperlink to another page.

Mouse operations

All mouse do not use the same mechanical technology but all of them accomplish the same task. Some of them use a tracking ball at the bottom and some of them use a type of light beam to detect the motion of mouse. Laptops are equipped with a small flat surface (touchpad/ trackpad) or sometimes with a very short stick for performing same job as mouse.

NOTES

The common mouse actions are as follows:

(a) **Click or left click:** It is used to select an item. Press down once on the left button with your index finger.

(b) **Double click:** It is used to start a program or open a file or trigger an action. Press the left button twice quickly.

(c) **Right click:** It is used to display a set of commands and available options. Move the mouse pointer to the desired position, keeping the mouse still, click the right button lightly with the middle finger.

(d) **Drag and drop:** It allows to select and move an item from one location to another. Position the mouse on an object, hold down the left button of the mouse, and drag the object.

(e) **Scroll:** Many applications provide scrollbars on right side of screen if the page length is more than the monitor/screen length. Instead of using page down key or arrow keys, one can use scroll key of a mouse to scroll up or down. If the scroll key is not available, one can click on the scroll bar on the application screen with the let button of the mouse. Use the scroll wheel on the mouse to move the page on the screen up or down.

(f) **Blocking:** Blocking is another way of selecting text. It is used to select text that needs to be edited or formatted. Click at the beginning of the word or sentence and hold down the left button, then drag along the text and see it being highlighted in black. At the end of the text or sentence release the left button.

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Typing ergonomics

Typing ergonomics provides the logistic support for efficient and effective typewriting. They are important to attain and maintain accuracy and speed. Some of these factors included are as given as below:

Sitting posture

While operating the computer keyboard, sit straight, slightly bending your neck forward. Check your comfort

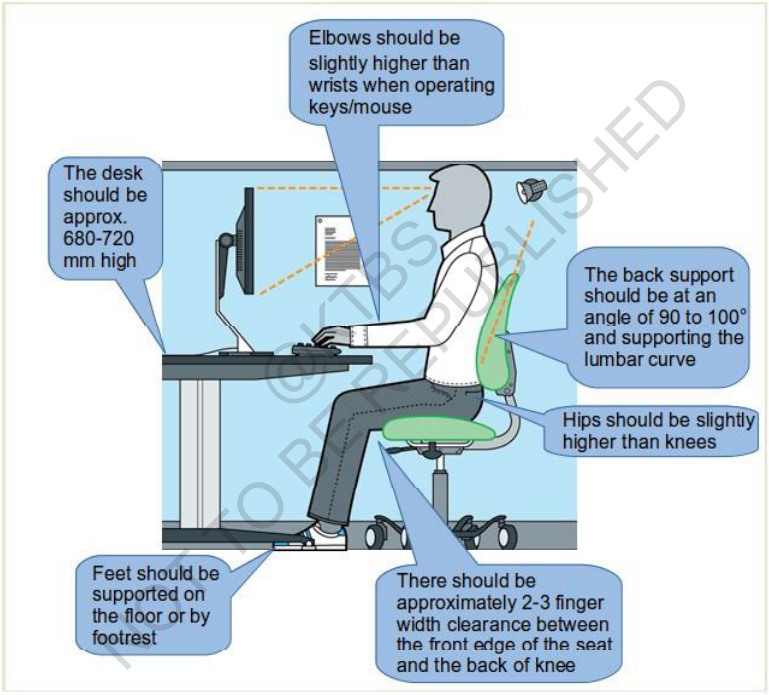


Fig. 2.5: Sitting Posture while Working on Computer

and sitting position of body. Touch the lower portion of your back to the lower portion of the back rest of the chair. Touch both the feet to the floor shown in the (Figure 2.5).

Position of hands

Put your forearms at level with the keyboard and palms down (Figure 2.6). Keep your wrists straight and hang

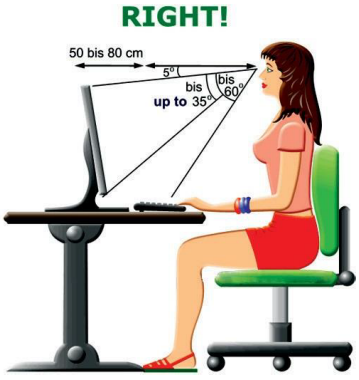


Fig. 2.6 Correct screen angle view



Fig. 2.7 Wrong way of sitting

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your elbows naturally. Don't touch the elbows to the body nor be too far away from the computer (Figure 2.7). Bend at about a 90 degree angle.

Monitor placement

Do not bend your neck while seeing the monitor and keep the upper border of screen at eye level. The distance of screen from the user depends on the size of the screen. Keep an approximate distance of about 60–65 cms for 17 inches screen.

Mouse and keyboard placement

Keep the keyboard and mouse together at an approximate distance of 20 cms, which will help in smooth and effortless. Same height of keyboard, mouse and elbows help the users to work comfortably.

Chair and table placement

Adjust computer chair and table to an optimal height. The chair of the computer user must be supportive to his/her lower back. The computer table should also have sufficient space for your legs. With the correct ergonomics, typewriting becomes a natural phenomenon without causing unnecessary fatigue.

Placement of matter to be typed

Place the matter for typing to the left or right side of the keyboard preferably on a Copy Holder which has a sloping surface.

Positioning of fingers on the keyboard

As typing is equivalent to pen or pencil now-a-days, mastery of computer keyboard has become obvious. Mastery typewriting skills means to attain necessary knowledge and skill of keyboard operation by correct positioning of fingers.

In the Home Row Approach, also called Horizontal Approach, all the eight fingers of both the hands rest on Home Keys during the keyboard operation. The home keys of fingers are as follows:

- a, ; - Little finger of left and right hand respectively.
- s, l – Ring Finger of left and right hand respectively.
- d, k – Middle Finger of left and right hand respectively.
- f, j – Index Finger of left and right hand respectively.

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The fingers are trained to make the correct movement to the other keys in such a way that each finger returns immediately to its home key after it has depressed the corresponding key in any other row. The thumb of the right hand is used to operate the Space Bar shown in (Fig 2.8).

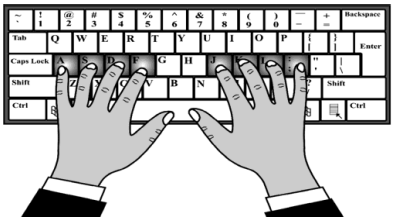


Fig. 2.8: Allocation of Keys to Fingers

Allocation of keys to fingers

The keyboard learning process starts from the second row (Home Row) followed by the Third Row (Upper Row), First Row (Bottom Row) and the Fourth Row (Number Row). The fingers of both the hands have to operate the keys allotted to them on each row (Figure 2.9). It must be remembered that each finger has to operate only the key allotted to it.

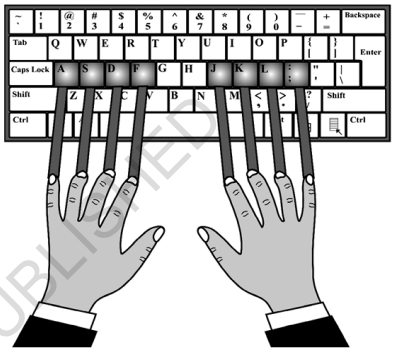


Fig. 2.9: Positioning of fingers on the Homerow

Allocation of keys to fingers on the second row (home row)

Place four fingers of each hand on Home Keys as shown in Figure 2.9. The remaining two keys 'g' and 'h' on the second row are operated by the forefingers (Index Finger) of left and right hand, respectively.

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Let's Practice 1

A. Type the following in double line spacing to get perfection over the Home Row.

asdfg;lkjh asdfg;lkjh asdfg;lkjh asdfg;lkjh asdfg;lkjh
asdfg;lkjh asdfg;lkjh asdfg;lkjh asdfg;lkjh asdfg;lkjh
asdfg;lkjh asdfg;lkjh asdfg;lkjh asdfg;lkjh asdfg;lkjh

Instructions:

- Do not look at the keyboard
- Each letter should come beneath the other
- Concentrate your mind on the text
- Typing should be done quite accurately with constant rhythm
- Repeat this process until mastery over this exercise

NOTES

Let's Practice 2

B. Type the following in double line spacing to get perfection over the Home Row.

asdfg;lkjh fads lall dask sad slak flask fads lall dask sad slak flask fads lall dask sad slak flask fads lall dask sad slak flask fads lall dask sad slak flask fads lall dask sad slak flask fads lall dask sad slak flask fads lall dask sad slak flask

Instructions

- Do not look at the keyboard
- Each letter should come beneath the other
- Concentrate your mind on the text
- Typing should be done quite accurately with constant rhythm
- Repeat this process until mastery over this exercise

Undertake repeated practices of typewriting the character on the Home Row without looking at the keyboard.

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Allocation of keys to fingers on the third row (upper row)

The next step is learning the key-reaches from the Home Row to the row above it. The learning begins with the reaches from '**a**' to '**q**' by left hand little finger and from '**;**' to '**p**' by right hand little finger. This is followed by the placement of the third fingers (Ring fingers) to the adjoining keys '**w**' and '**o**' and so on (Figure 2.10). In the third row, the allotment of fingers is explained below.

LF	RF	MF	IF	IF	IF	IF	MF	RF	LF
Q	W	E	R	T	Y	U	I	O	P

Fig: 2.10: Allocation of fingers on the third row

While typing on the upper row, keep fingers on home row. Lift fingers of left hand and strike upper row key one by one and type q w e r t (r and t are typed by the same finger)

Now, again lift the fingers of right hand and strike upper row keys one after another and type
p o i u y (u and y are typed by the same finger)

You should ensure that one finger should move at a time, while other fingers should remain on the home row.

Allocation of keys to fingers on the first row (bottom row)

After learning how to operate keys on Home Row and Third Row, the next step is to learn how to operate keys on the First Row. Keys Z, X, C, V, B, N, M, Comma, Full Stop and '/' sign are assigned strstarting from little finger to index finger.

Let's Practice 3

A. Type the following words and sentences in double line spacing to practice the Upper Row of the keyboard.

qwert poiuy qwert poiuy qwert poiuy qwert poiuy qwert poiuy qwert poiuy qwert poiuy post quite type quaypoleripehope wait role what show flow goal wool post quite type quay pole ripe hope wait role what show flow goal wool self help is the order of the day. Self helpis the order of the day the writer was happy, the writer was happy.

In the earlier two rows, all the eight fingers of both the hands were used to operate the keys. But while typewriting on the First Row, little finger of left hand is not used, i.e., no key is assigned to it. So, from the Home Row, turn downwards the Ring Finger of left hand and strike key 'z'. Similarly, type keys 'x' and 'c' with middle and forefinger, respectively. Type full stop, comma, m, n with little, Ring, Middle and forefinger of right hand, respectively, which will appear as given below.

z x c . , m n

Alphabets 'v' and 'b' are to be typed with forefinger of left and right hand, respectively.

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LF	RF	MF	IF	IF
–	Z	X	C	V

IF	IF	MF	RF	LF
B	N	M	,(Comma)	.(Fullstop)

Let's Practice 4

A. Type the following words in double line spacing to practice the Bottom Row of the keyboard.

gameroxytimetaximindcampjumplazy,size;zeal,haze,zone;zinc.
Gameroxytimetaximindcampjumplazy,size;zeal,haze,zone;zinc.
on,no,man,can,child,chalk,number,member,remember,general
on,no,man,can,child,chalk,number,member,remember,general

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Allocation of keys to fingers on the Fourth Row (Number Row) (Fig. 2.11)

In this row, type 1, 2, 3 with little, ring and middle fingers of the left hand, respectively, and 4 and 5 with the index finger (forefinger). Similarly type 0, 9, 8 with little, ring and middle fingers of right hand, respectively, 7 and 6 with index finger (forefingers).



Fig. 2.11 Numeric Keypad on Keyboard

LF	RF	MF	IF	IF
1	2	3	4	5

IF	IF	MF	RF	LF
6	7	8	9	0

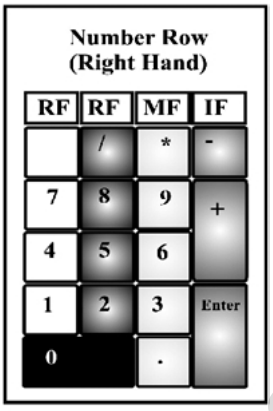




Fig. 2.12: Positioning of Fingers on the Number Row

Using numeric keypad

Efficient and effective use of numeric keypad is important for numeric data entry. The numeric keypad has four columns and five rows. The row which has 4, 5, 6 and + is called Home Row. This is the row which is initially practiced by a touch typist. The allocation of keys on this row is as shown in Figure 2.12.

On a numeric keypad, the number 5 is the guide key. It has a small raised tangible mark which serves as a guide for the touch typist in the placement of fingers on other keys.

Allocation of rest of the keys on numeric keypad '0' is to be pressed by the right-hand thumb. One can also make use of calculator keyboard for numeric keypad practice.

Successful keyboarding tips

The following points may be kept in mind for successful keyboarding techniques.

- Press the keys with feather touch and do not put undue pressure.
- Rest your fingers on Home row while typing.
- Allow your fingers to fall naturally on the keys so that each rests on top of the next key along the same horizontal row.
- While typing, release the key immediately as soon as you press it. Holding the key for long time, will repeatedly type the same character.
- Do not look at the keyboard while practicing.
- Press the keys with equal intervals of time in rhythm.
- Press the keys only with the fingers allotted for them.
- While pressing a key, slowly pronounce the character on the key.
- Do not take any mental stress while typing.
- Secure typing ergonomics.
- Maintain patience if committed mistake at initial stage.
- Maintain a balance between speed and accuracy, as both are equally important. Do not sacrifice accuracy for speed.
- To gain mastery of computer keyboard, undertake repeated practice of type writing words, sentences, passages and figures without looking at the keyboard.

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Check your typing ergonomics

- Do you sit in the correct posture while working on computers? Yes/No
- Is your desk and chair ergonomic, and if not, have you adjusted them? Yes/No

- Are your computer table, mouse, keyboard placed in correct position? Yes/No
- Is your computer/laptop correctly placed on your desk? Yes/ No
- Have you arranged your tools on your desk to prevent twisting and reaching? Yes/No

Using typing software

There are many software available which are free of cost and are customised to learn typing efficiently and effectively.

Introduction to Rapid Typing Tutor

Rapid Typing Tutor is a Free and Open Source Software (FOSS) designed to learn typing skills on the computer. It is free to use and share with others for free, but only by using the original distribution package. Learning to type is fun with the typing game included with Rapid Typing Tutor.

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Touch typing technique

Touch typing improves typing speed and accuracy. A touch typist never looks at the keyboard. The fingers hit the right keys by habit. The typist is entirely focused on the text being typed, reading the words and phrases as the fingers type the text reflexively. Touch typing can be learned by performing special exercises.

Stage one of the process begins with learning the Home Row of the keyboard (the row beginning with the Caps Lock key). Looking at the keyboard is strictly forbidden. This is followed by learning the lower and upper rows, the numbers row, uppercase letters and special symbols.

Stage two involves memorising frequently used syllables and typing words containing these syllables.

Stage three involves typing actual text to perfect the skills acquired.

Touch typing rules



Fig 2.13: Keyboard Layout for Learning Typing

- The F, D, S, A, and J, K, L, ; keys (on a QWERTY keyboard) represent the base position. Keyboards usually have small protrusions on the F and J keys. They help your fingers locate the base position without looking at the keyboard. Try to return your fingers to the base position after each keystroke.
- Colour coding shows which finger should press each key (Fig. 2.13). The left index finger is reserved for all the red keys. The right index finger is reserved for green keys, and so forth. Use the thumb of whichever hand is more convenient for you to press the Space key.
- The base position on the numeric pad is the number 5 key for the middle finger, 4 for the index finger, and 6 for the ring finger. The numeric pad simplifies and speeds up numerical data input.
- Uppercase letters and symbols appearing on keys in the upper row are typed by one hand, with the little finger of the other hand holding down the SHIFT key.
- Do not look at the keyboard. Try to locate the right key with your fingers.

After configuring settings in Wizard, Rapid Typing's main window will appear as shown in (Figure 2.14).

Let us familiarise with the **Typing Tutor** interface. The window is composed of the following controls:
Taskbar allows to set or change some basic options to start a lesson (keyboard layout, level, lesson, and background).

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Fig 2.14: Rapid Typing's Main Window

Three horizontal buttons in the top- right corner (Options, About and Help) can display the corresponding dialogs.

Three vertical buttonsin the top-left corner (Lesson, Statistics and Lesson Editor) are used for switching between current lesson, User Statistics and Lesson Editor.

Text panel is the area where the text to be typed is displayed. You can easily edit it in Lesson Editor, if necessary.

Lesson control panel includes several controls to pause/resume the current lesson, enable/ disable sounds, and adjust the sound volume.

Keyboard is the virtual keyboard that will help you to learn touch typing with all 10 fingers. You can customise its appearance in the 'Lesson' section.

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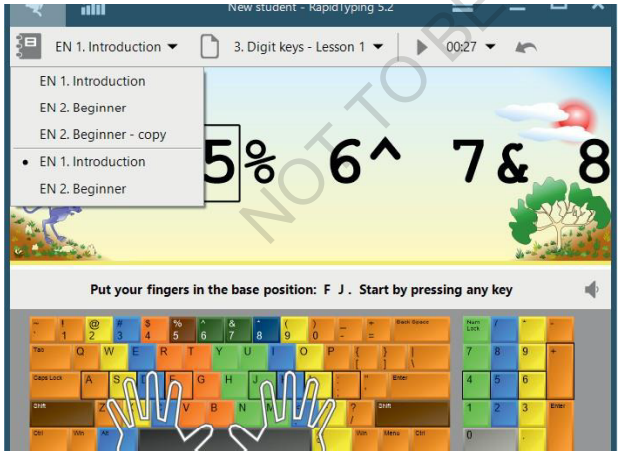


Fig 2.15: Beginning or Introduction to Rapid Typing Tutor

Begin lessons

To start your first lesson in **Typing Tutor**, select the keyboard layout, level and lesson category on the Taskbar shown in Fig 2.15.

There are four drop-down lists in the top-left corner of the screen. Therefore, moving from left to right, the procedure will be as follows:

- Choose the layout (i.e., the language of keyboard); it' is "EN" in Fig 2.15.
- Then, select a level (there are three levels available—

Introduction, Beginner); it's "Beginner" on the picture above.
Specify lesson category (depending on the level chosen, the available categories may vary).

- Finally, choose the lesson that you would like to study (Fig 2.16).
- When everything is ready, press any key, then put your fingers in the initial position shown on the keyboard and start typing the text.

There is also the Lesson Control Panel just above the Keyboard from where you can suspend/resume the current lesson or adjust the sound effects:

- To start/resume a lesson, click the ► button just above the top-left corner of the keyboard.
- To pause a lesson, click the ‖ button that is displayed instead of the ► button.
- To restart the current lesson, click the button, which is the far right button on the Taskbar.
- To enable/disable sounds in the current lesson, click the button located above the top-right corner of the keyboard and set the sounds volume using the vertical slider.

Notes

- You can also set the background image for the Text Panel by choosing an option (**Animation, Wallpaper** or **Plain**) from the dropdown list on the Taskbar in top-right corner of the window.

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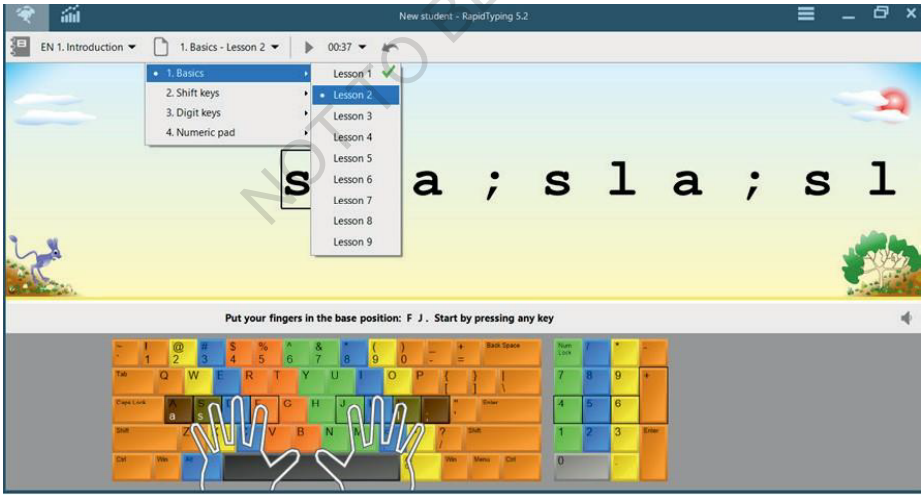


Fig 2.16: Choose the lesson

- While making your way through the lessons, you will probably mention two progress bars (one in green and another in yellow) on the Lesson Control Panel.
- The green progress bar (upper) shows the percentage of completion of the current lesson, and the yellow progress bar (lower) reflects the acceptable time period for typing a single character.
- When the yellow progress bar runs out at least once, **Typing Tutor** records that you have broken the rhythm at this character.

How to interpret your results

Each time you complete a lesson, the Results dialog window displays your achievements in this lesson.

The Results dialog window consists of two tabs called Rating and Errors. The first one looks like shown in figure 2.17

You can review your metrics: overall skill level between *Beginner* and *Champion* (upper slider indicator) as well as words per minute, characters per minute and accuracy in per cent (three remaining sliders below). In the text area, you can check your mistakes that occurred during the lesson.

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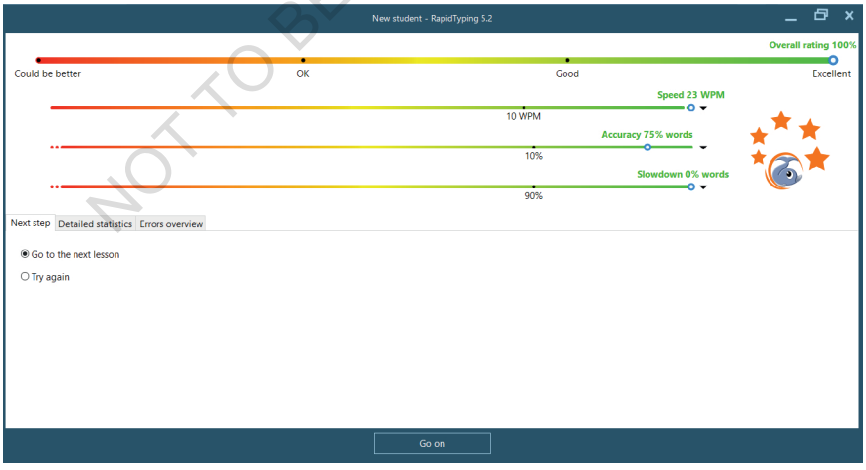


Fig 2.17: Results Dialog Window for Your achievements

The colour indication is as follows:

- **Green** letters denote right inputs.
- **Yellow** letters stand for right inputs exceeding the acceptable timeframe.
- **Red** letters denote wrong inputs within the acceptable timeframe.
- **Orange** letters indicate wrong inputs that also exceed the acceptable timeframe (it's the worst result).

Error window

On the Error tab you can view your detailed statistics for the current lesson. This tab shows your errors and delay percentage both in the graphical and table view. This will help you to better understand which letters are still hard for you to type. You can switch between the Errors and Delay in percent chart by clicking the button.

On the bar chart, the X-axis corresponds to the letters used in the lesson, while the Y-axis shows the errors or delays related to each letter. If there aren't any errors and delays for a certain character, it won't show up on the chart.

Note

When you select a row in the table, the corresponding bar on the chart will be highlighted. When you select a column in the table, the chart will show either errors or delays.

Then, you can click the Next button below to proceed to the next lesson, Repeat to go through this lesson once again, or Records to check whether your results are great enough for **Typing Tutor's** Hall of Fame.

To view the results of all the lessons that you've already completed (not only the current one), go to the Statistics section.

View and analyse statistics

To view the results of all the lessons that you have already completed: (i) Open the Statistics section, and (ii) choose the button in the top-left corner of the main window. The Statistics screen will open as shown in Figure 2.18.

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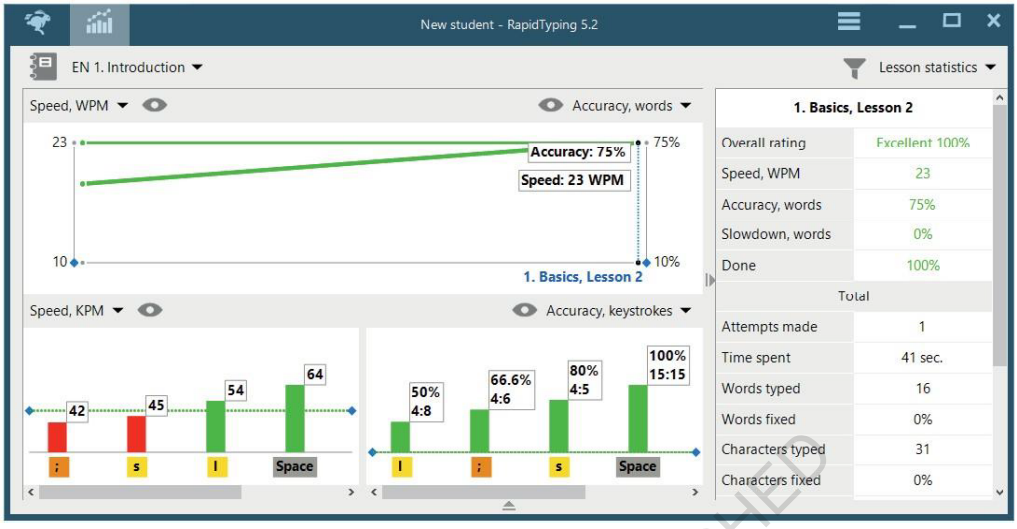


Fig 2.18: Overall Statistics and Progress of Your Typing

Here, you can review your overall statistics (Fig. 2.19) and progress both in graphical and table view. The following options are available:

- Click the button in the top-left corner of the window (or press Ctrl+1 on your keyboard) to see your CPM speed (Characters Per Minute) progress.
- Click the button (or press Ctrl+2 on yourkeyboard) to see your WPM speed (Words Per Minute) progress.
- Click the button (or press Ctrl+3 on your keyboard) to see how your typing accuracy changes in the different lessons.

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Fig 2.19: Overall rating

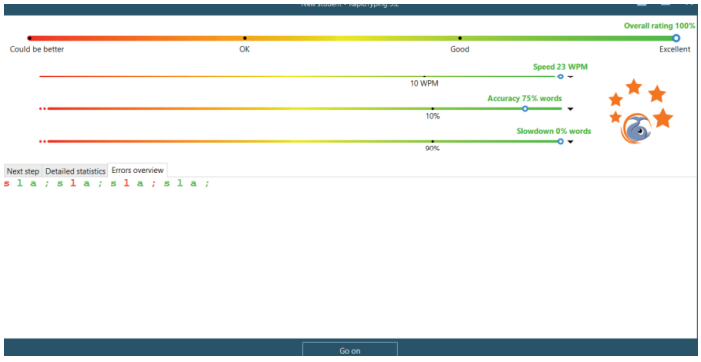


Fig 2.20: Statistics for a Particular Lesson

- To remove a metric from your statistics, select a lesson in the right table and click the button (or press Delete on your keyboard).
- On the Taskbar in the upper part of the window, you can choose keyboard layout, level and course for which you'd like to see statistics.
- You can also switch between the Lesson Group (that is, statistics by lessons) and Day Group (statistics by days) options in the far right drop-down on the Taskbar.

Detailed lesson statistics

To review the statistics for a particular lesson, choose this lesson in the right table and click the Lesson tab in the top-right corner. The Lesson tab contains the same data that are displayed upon completion of every lesson (Fig 2.20).For details, see How to Interpret Your Results section.

Working with lesson editor

To open Lesson Editor, click the button in the top-left corner of the Rapid Typing window.
Lesson Editor window is composed of the following controls:

- Taskbar which allows to select the keyboard layout and level of the lesson to edit.
- Toolbar which includes Basic_lesson1 or lesson 2…., for inserting text.

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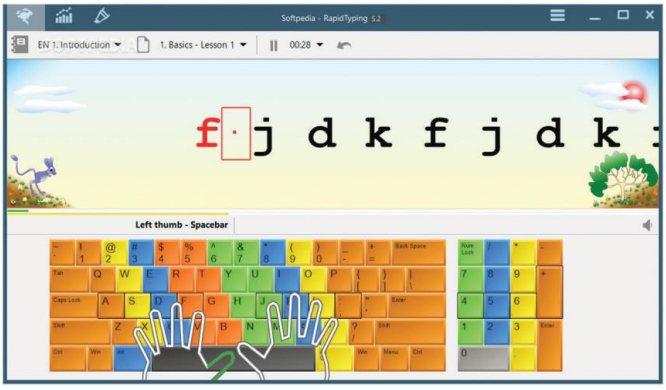


Fig 2.21: Typing using the Basic Keys

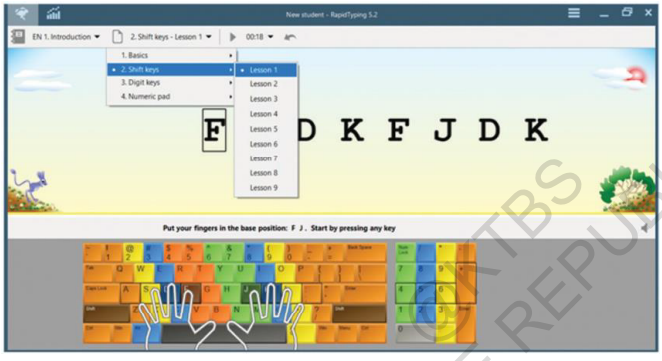


Fig 2.22 Type using Shift Key

- Navigation Tree which shows the existing courses and lesson hierarchy.
- Text Panel, an area where you can edit the text of the lesson currently selected in the Navigation Tree.
- Lesson Metrics which displays the number and percentage of words, characters, spaces and specific characters in the lesson.
- Keyboard, which is the virtual keyboard that highlights the characters used in the currently selected lesson. You can customise its appearance in the 'Lesson' section.

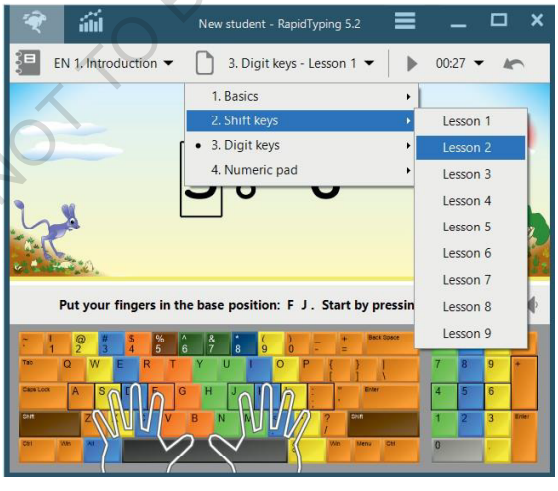


Fig 2.23 Type using Digit key

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Lesson Editor makes all the lessons fully customisable. You can add, insert, change, and delete lessons, group them in courses, and review the corresponding metrics. You can type using the basic keys (Fig. 2.21), such as Shift keys (Fig. 2.22), Digit keys (Fig. 2.23) and Numerical pad (Fig. 2.24).

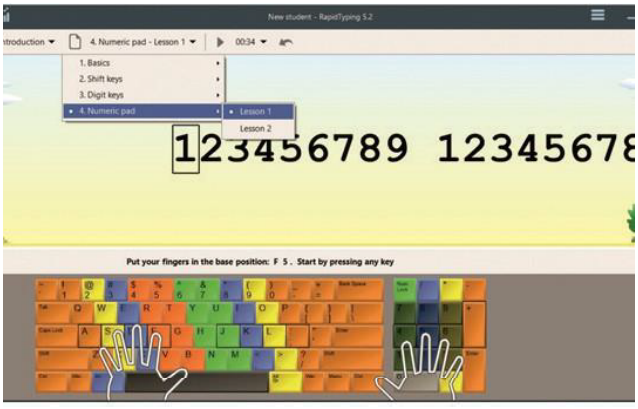


Fig 2.24 Type using the Numeric Keypad

Calculating the typing speed

The typing speed can be measured with different accuracies, such as

- How many words are typed for a certain time period? (the least accurate)
- How many characters are typed for a certain time period?
- How many keystrokes are made for a certain time period? (the most accurate)

Also there are

- Simple speed (Gross speed)
- Net speed (takes into account the errors)

The following table lists the detailed descriptions of typing speed types.

Types	Description	Formula
WPM (Words per Minute)	the number of words typed in a one minute period of time	WPM = (Words without errors + Words with errors) / Time spent in minutes
Net WPM	the WPM without words-with –errors	Net WPM = (WPM - Words with errors)/ Time spent in minutes
CPM (Characters per Minute)	the number of characters typed in one minute period of time	CPM = (Characters without errors + Characters with errors) / Time spent in minutes
Net CPM	the CPM without characters with-errors	Net CPM = (CPM - Characters with errors) /Time spent in minutes
KPM (Keystrokes per Minute)	the number of keystrokes in one minute period of time	KPM = (Keystrokes without errors + Keystrokes with errors) / Time spent in minutes
Net KPM	the KPM without keystrokes-with-errors	Net KPM = (KPM - Keystrokes with errors)/ Time spent in minutes

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A student typed 240 characters per 2 min with errors in 20 characters.

Simple speed = 240 characters / 2 min = 120 cpm

Net speed = (240 – 20) / 2 cpm - (20 errors / 2 min) = 100net cpm

Typing accuracy

Typing accuracy is defined as the percentage of correct entries out of the total entries typed. The following table lists the different formulas for the typing accuracy calculation.

Description	Formula
Accuracy in the words, percent	Accuracy = (100% - Words with errors * 100%) / Total number of words
Accuracy in the characters, percent	Accuracy = (100% - Characters with errors * 100%) / Total number of characters
Accuracy in the keystrokes, percent	Accuracy = (100% - Incorrect keystrokes * 100%) / Total number of words

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Sometimes it is convenient to evaluate the typing accuracy in the Errors (percentage errors). See table below—

Typing rhythm

Description	Formula
Errors in the words, percent	Errors % = Words with errors * 100% / Total number of words
Errors in the characters, percent	Errors % = Errors = Characters with errors * 100% / Total number of characters
Errors in the keystrokes, percent	Errors % = Incorrect keystrokes * 100% / Total number of keystrokes

In the touch typing techniques the typing rhythm is very important. Typing rhythm means the keystrokes

should come at equal intervals. To control the constant typing speed, the Slowdown indicator is used. The following table shows the different formula for the Slowdown (percentage slowdowns) calculation:

Description	Formula
Slowdown in the words, percent	Slowdown % = Words with delay * 100% / Total number of words
Slowdown in the characters, percent	Slowdown % = Characters with delay * 100% / Total number of characters
Slowdown % in the keystrokes, percent	Slowdown % = Keystroke delay * 100% / Total number of keystrokes

Overall rating calculation

Overall rating (%) = (Net speed / Course goal: Speed) *100% where:

- Net speed is Net WPM, Net CPM or Net KPM, the value depends on the current options
- Course goal: Speed is customised in the options for each course

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(a) Good typing speed

An average professional typist types usually in speeds of 50 to 80 WPM, while some positions can require 80 to 95 and some advanced typists work at speeds above 120 WPM.

The fastest typing speed on an alphanumeric keyboard, 216 words in one minute, was achieved by Stella Pajunas in 1946.

As of 2005, writer Barbara Blackburn was the fastest alphanumerical English language typist in the world, according to *The Guinness Book of World Records*. Using the Dvorak Simplified Keyboard, she maintained 150 WPM for 50 minutes, and 170 WPM for shorter periods.Her top speed was 212 WPM.

Practical Exercise

A. Using your left-hand type

asdfasdfasdfasdfasdfasdfasdfasdfasdfasdfasdf
fdsafdsafdsafdsafdsafdsafdsafdsafdsafdsafdsa

B. Using your right-hand type

;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj ;lkj

Using your both handstype

ghghghghghghghghghghghghghghghgh

C. Stretch your left index finger up/out to T (look on the keyboard) and type

thththththththththththththththththththththth

D. Using your left-hand type

deed frrf deer reed red deed frrf deed reed red deed frrf deer reed red

E. Using your right-hand type

ujkiikjujkikjuujkiikjujkikjuujkiikjujkikjuujkiikjujkikjuuj kiikjujkik

F. Using both your hands type

juut jut jute kiit kit kite juut jut jute kiit kit kite juut jut jute kiit kit kite jud judder jug jugger judge judged juud judder jug jugger judge judged igh high thigh ight fight right fright igh high thigh ight fright right fright

A common reference would be
http://www.typing-lessons.org

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Check Your Progress

A. Multiple choice questions

1. Which of the following is not a key for punctuation marks?
   (a) comma (,) (b)period (.)
   (b) semicolon (;) (d)equal sign (=)
2. Which of the following is not an arrow key?
   (a) top (^) (b)down (↓)
   (b) right (→) (d)left (←)

3. Which of the following operation is not performed by a mouse?
(a) Left Click (b) Right Click
(c) Middle Click (d) Double Click

4. In the Rapid typing tutor, which of the following is not true?
(a) Green letters denote right inputs.
(b) Yellow letters stand for right inputs in extra time.
(c) Red letters denote wrong inputs within time.
(d) Orange letters indicate wrong inputs with in time.

5. The lesson control panel can be used for .
(a) animation (b) enable or disable sounds
(c) plain (d) background

6. The Alt ___ and _____ keys is always used with the other key.
(a) Shift, tab (b) shift, alt
(c) ctrl, tab (d) shift, ctrl

7. Enter key is also known as _____
(a) Return key (b) Carriage key
(c) Written key (d) toggle key

8. The keys 'F' and 'J' are known as _____ keys.
(a) Home (b) guide
(c) Both a and b (d) Num

9. Alternate key is also known as _____
(a) Alt key (b) Second control key
(c) Both a and b (d) none of these

10. NumLock key is_____ a key.
(a) Toggle (b) alternate
(c) control (d) shift

11. The mouse operations are _____
(a) Drag (b) Select
(c) move (d) All of these

12. The mouse actions are _____
(a) Click/ double click/ Right click
(b) Scroll
(c) drag and drop
(d) all of these

13. _____ is a Free and Open Source Software (FOSS).
(a) LibreOffice (b) Rapid typing tutor
(c) Both a and b (d) none of these

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B. **Fill in the blanks:**

1. A touch typist knows the location on the keyboard through _____memory.
2. The typing speed is measured in _____.
3. Alphabets (A–Z) and numbers (0–9) are known as _____ keys.
4. Del key deletes the character at the _____ cursor position.
5. A standard keyboard has _____Function keys.
6. Numeric keypad is used to enter _____data.
7. Page Up key is used to shift the_____one page up.
8. Pressing the End key moves the cursor to the _____character of the line.
9. On numeric keypad '0' is to be pressed by the ____ thumb.
10. The numeric keypad has _____ columns and _____ rows.
11. There are _____ arrow keys on the keyboard.
12. The Backspace key is used to delete the character the_____to the cursor.
13. Caps lock key is a _____key.
14. ASDF and LKJ are called as _____ keys.
15. Mouse is a _____device.
16. On a numeric keypad, the number _____ is the guide key.
17. The Delete key is used to delete the character on _____to the cursor.

C. Match the following with the correct results obtained while working with rapid typing tutor :

Column A	Column B
i. Red	a. right inputs.
ii. Green	b. right inputs exceeding the acceptable timeframe.
iii. Yellow	c. wrong inputs that also exceed the acceptable timeframe
iv. Orange	d. wrong inputs within the acceptable timeframe.

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D. Short answer questions (50 words)

1. Discuss the various types of keys available on a computer keyboard.
2. Differentiate between Home Keys and Guide Keys.
3. What do you understand by Guide Keys? Name the Guide keys of a

   (a) computer keyboard
   (b) typewriter
4. Explain the role of typing ergonomics.
5. Why the use of various typing software is common now-a-days?
6. Mention the finger allocation of keys of the Bottom Row of computer keyboard.

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Digital Documentation

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Introduction

In earlier days, manual typewriters were used for typing a document, which was replaced by electronic typewriter and now a computer is used for this purpose. Word processing, data processing, communication and presentation are the most common activities performed in an office. Office productivity software is used to perform these activities effectively.

A document is a paper with written contentsand the process of preparing a document is called documentation. Documentation is required to preserve the contents for a longer period or to be used as evidence. The documents can be letters, reports, thesis, manuscripts, legal documents, books, etc. A handwritten document can have certain disadvantages like understanding the specific handwriting. With the advancement in computer hardware and software technology, the process of handwritten documentation consequently automated to computer word processing. A data entry operator should possess the skills to use the office productivity tools with a good typingspeed. Although typing skill is the essential criteria for

Word processing

The term word processing was invented by IBM in the late 1960s. By 1971 it was recognised by the *New York Times* as a "buzz word". (source: http://www.computernostalgia.net/articles/istoryof WordProcessors.htm)

data entry operator, a little care has to be taken while using the word processing software. A typist hits the space bar a number of times to arrange the text.This is not required in the computer, as the automated features for editing and formatting are available.

Word processing is the use of computer software to enter, edit, format, store, retrieve and print the document. The document can be a letter, notice, report, business correspondence, etc.

A word processor is a computer application used for the production of printable material. In the beginning WordStar was the most widely used word processing software. There are several limitations to using a typewriter, which are as given below.



Fig. 3.1: Typewriter

1. In case of any typing error, the whole sheet is required to be typed again.
2. To send same letter to two or more persons with different addresses requires multiple typing efforts.
3. Typewriter does not have all the required characters or symbols. It is not possible to type all the characters using the typewriter.
4. It is not possible to produce a document in the desired format using a typewriter.

In the year 1974 ***Xerox*** company had introduced an electronic typewriter, shown in (Fig 3.1). as an attempt to solve the problems of the manual typewriter to some extent (http://www.computernostalgia.net/articles Historyof Word Processors.htm).

In electronic typewriter, it is possible to make changes in the content, make multiple copies with minor changes. But it has a limitation of very small size screen to display the contents. Its screen can view only one or two lines. In late 1970s, with the development of

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computer software technology, word processing software was introduced. In this software a document can be navigated, edited, formatted and printed. The modern word processors take advantage of a GUI (graphical User Interface) providing some form of What-You-See- Is-What-You-Get (WYSIWYG) editing. This means, the special effects on text are also visible on the screen.

Word processing software not only provides basic ability to enter and modify the text but also provides efficient text manipulation functions that can be used for documentation. Modern word processors provide attractive features. Some of the features provided by popular word processors are as listed below.

- Create, edit, save, retrieve and print the document
- Select and move the text from one place to another in the document
- Copy the text to other places within the document
- Move or copy a selected text from one document to any other document
- Change the font size, font style of the text in the document
- Format paragraphs as well as pages
- Check spelling and grammar
- Create table, modify the size of the selected rows, columns or cells
- Combine one or more documents
- Insert pictures or graphs within the document
- Print the selected text or selected pages of the document

Word processors are being used in business, home, and education, i.e., in schools and colleges for preparing letters, reports, and many other different types of documents. Students use it for preparing project reports and assignments. Teachers use word processors for preparing question papers and notes.

Office suite is a collection of programs, which are useful for word processing, spreadsheet preparation, presentation, and database management. There are several office suits. We will be using LibreOffice, because of its several advantages.

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LibreOffice is a Free and Open Source Software (FOSS), fully-featured office productivity suite. Currently the versions of LibreOffice is 24.8.1 and above are available.It is available free for downloading from the website *www.libreoffice.org*. This suite is available in many languages and runs on many platforms (Windows, Mac and Linux). It uses Open Document Format (ODF) file format, for publishing documents. LibreOffice components are integrated with each other and have a similar 'look and feel', which makes it easy to use and train. The components of LibreOffice are Writer for word processing, Calc for spreadsheet preparation, Impress for presentation, Base for database management, Draw for drawing and others. LibreOffice includes supportfor opening and saving files in many common formats including Microsoft Office, HTML, XML, WordPerfect, and PDF.

Getting started with word processor – Writer

LibreOffice writer word processer

Several word processing software are available to prepare the report. But we will prefer to use LibreOffice Writer, because it is Free and Open Source Software (FOSS) with rich features of word processing. Some word processors are also available freely on the web.

Web-based word processer

- Google Docs
- Office 365 Word
- Microsoft OneDrive Word

A school teacher arranged a field visit of Class IX students to a National level IT job fair. The purpose was to know the scope and opportunity in IT–ITeS sector.

After the visit the students were given an assignment to submit a report which should include details about the IT–ITeS industry in India with pictures, responsibilities of a Data Entry Operator and the education and experience required to be one. The students had to prepare a draft report on a paper. It had to be typed and printed. Initially the students thought to use a typewriter to type there port, but the typewriter cannot provide the facility to type with various fonts and colours and also they wouldnot be able to add pictures using a typewriter. Therefore, they prepared the report using the word processing software on the computer. This provides various features

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to make the report more attractive. It was printable and changes could be made in the file anytime. There are a variety of computer software applications used to prepare such reports, letter in offices, schools and colleges. Let us study how to use the word processing application to prepare a report.

Let us prepare the report in LibreOffice Writer. The presentation of the final report should be as shown in the following **REPORT** page.

Report

Field Visit to IT Job Fair

We visited the IT Job Fair, 2018 held at ***Bengaluru*** on 5th July. It was quite a knowledgeable experience for us. We got to know about the IT Sector in depth.

The ***Information Technology & Information Technology Enabled Services (IT/ITeS)*** sector is a field which is undergoing rapid evolution and is changing the shape of Indian business standards. This sector includes software development, consultancies, software management, online services and **Business Process Outsourcing (BPO)**.

India's IT industry is expected to grow at a rate of 12–14% during 2016–17 as per a report by India's software industrybody National Association of Software and Services Companies (NASSCOM.)

Data entry employment is a wide field. Sometimes referred to as a key entry operator, data entry specialist, data entry clerk or an information processing worker. These are also the common core functions and data entry skills of the job.

Job Tasks and Responsibilities	Education and Experience
1. Prepare, compile and sort documents for data entry 2. Check source documents for accuracy 3. Verify and correct data where necessary 4. Update and delete unnecessary files 5. Combine and rearrange data from source documents where required	1. High school certificate 2. Formal computer training an advantage 3. Proficient in relevant computer office applications 4. Accurate keyboard skills and proven ability to enter data at the required speed

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5. Enter data from source documents into computer database, and forms 6. Scan documents into document management systems or databases	5. Knowledge of correct spelling, grammar and punctuation

Double click means to move the mouse pointer over the desired item and click the left mouse button twice, quickly, click-click.

To prepare the above report, we will first learn how to open LibreOffice Writer and then type the text of the above report.

Starting LibreOffice Writer

In general, you will find a shortcut of LibreOffice on the desktop or on the *Quick Launch Taskbar*. The process may slightly differ according to the operating system you are using *(Windows or Linux)*.

To start LibreOffice Writer in ***Windows:***

(i) Double click LibreOffice Writer shortcut, which is usually found on the computer desktop (Figure 3.2).

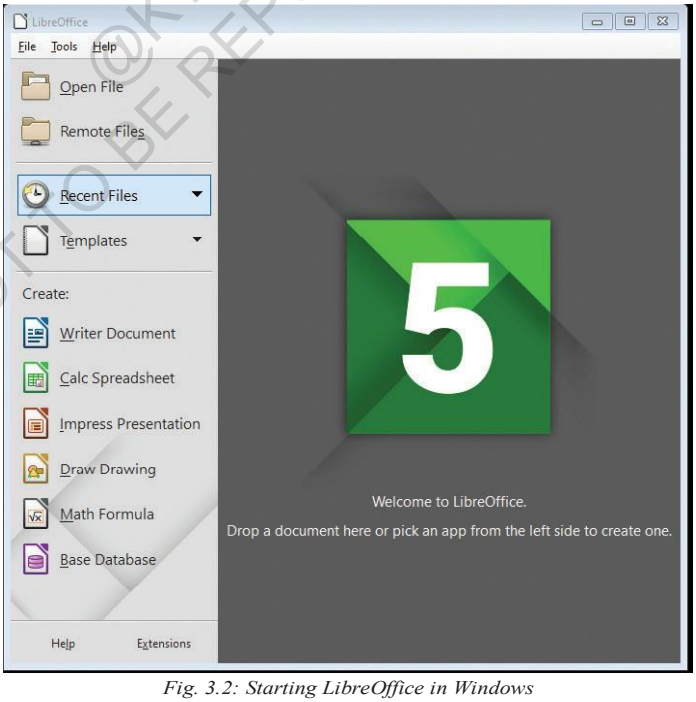


Fig. 3.2: Starting LibreOffice in Windows

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(ii) Alternatively, click on the ***Start*** or ***Windows button***, select ***LibreOffice*** → ***LibreOffice Writer*** from application window.

(iii) Using the Search command, type the word 'writer' in the search field, and select *LibreOffice* Writer from the offered results.

In Ubuntu Linux, find the LibreOffice Writer icon on the application launcher, or search it by clicking on *'Show Applications'*, as shown in Figure. 3.3.



Fig. 3.3: Starting LibreOffice in Linux

Creating a document

Step 1 Create a new text document by using *File Menu* → *New* → *Text Document.*

Step 2 Now save the file by clicking on the ***File Menu*** → ***Save***. Give the name of the file (for example: report). By default, the file is saved in **.odt** format. Different file formats are as available.

Step 3 Saving the file by another name

It is possible to make another copy of the file by saving it with another name using the *Save As* option. Once the user saves the document by giving a name, it is called a ***'File'***. The user can save the file with another name

To create a new document:
Keyboard shortcut: ***Ctrl+N;***
Mouse options: ***File → New → Text Document***

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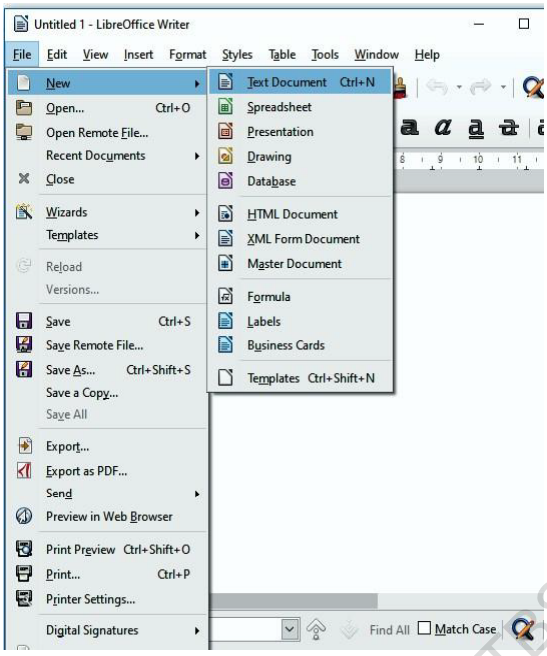


Fig. 3.4: Opening a New Text Document in Writer

in other location using the *Save As* option. The user will get two files the previous one and the one with new name.

Step 4 Closing the document— After finishing the work, close the file, as too many opened files will cause a disturbance in working. To close the file, select

File → Close

Step 5 Opening the document—It may further require to open a file for editing. Select ***File → Open*** or press ***(Ctrl+o)*** and the document will be open for editing (Figure 3.4).

(a) To Save a document using password

1. Select ***File → Save***
2. Select the location on disk to save the file
3. Type a suitable name for the document
4. Click on **Save** button
5. To save the document with password, put a tick on the checkbox **Save with a password**
6. Type the password to open the file in **Set password** dialog box
7. Type the same password in the second box and click **OK** button

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Parts of the Writer window

The various parts of the Writer window have been briefly explained below.

(a) Title bar: Title bar is located on the top of Writer window. It shows the title of the currently opened document. The name of the document means the file name of the document saved on the disk. For a new document, it shows the title of the

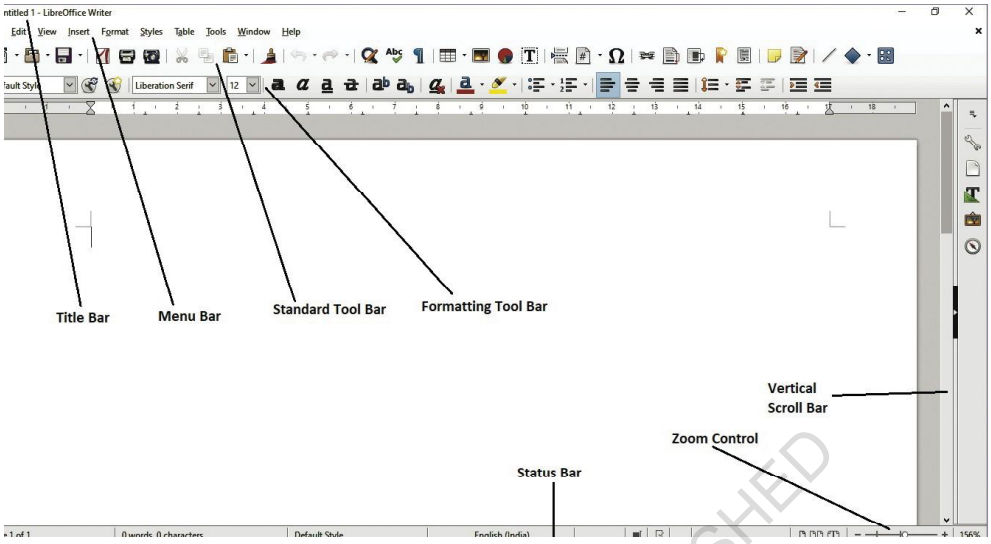


Fig. 3.5: Parts of the Main Writer Window

document as Untitled X, where 'X' is the document number Untitled 1, Untitled 2, Untitled 3... etc., as we go on opening the new document (Figure 3.5).

(b) Menu bar: It appears below the Title Bar. It shows the menu items File, Edit, View, Insert, Format, Tables, Tools, Window and Help. On selecting a menu item, its submenu will open below the menu item. We can select any item in the submenu as per the requirement. As an example Figure 3.6 shows the submenu for File menu.

- The submenu item which shows three dots '...' just after the submenu name, means, clicking on it will open the dialog box.
- The submenu item which shows right hand side arrows '►' just after the submenu name, means, clicking on it will open another submenu.

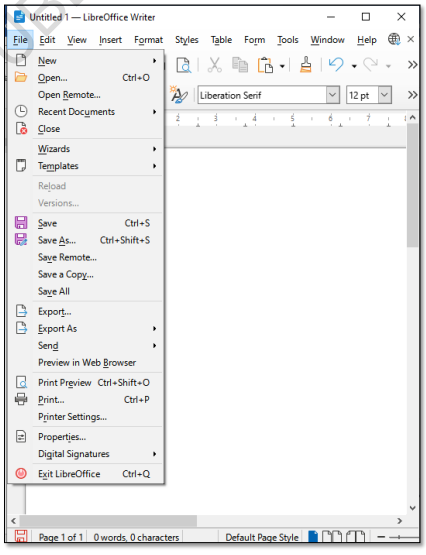


Fig.3.6: Submenu of File menu

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(c) **Toolbars:** The tool bar appears below Menu Bar. By default, the Standard Tool Bar and Formatting Tool Bar will appear. The other tool bars can be activated by clicking on ***'View'*** menu, and selecting the 'Toolbars' of submenu. The user can choose the required toolbars by clicking on it. The selected toolbar will show the √sign before the toolbar. Suppose we select the Find toolbar then the Find word in the toolbar will appear as √Find.

(d) **Standard toolbar:** It contains commands in the form of icons.

(e) **Formatting toolbar:** It contains the various options for formatting a document. A graphical representation of commands is shown in the form of icons.

(f) **Status bar (Fig 3.7):** This is positioned at the left bottom of the Writer window and displays the number of pages, words, the language used, zooming, etc. It is located at the bottom of the workspace.

(g) **Scroll button and scroll bar:** It is used to scroll the document.

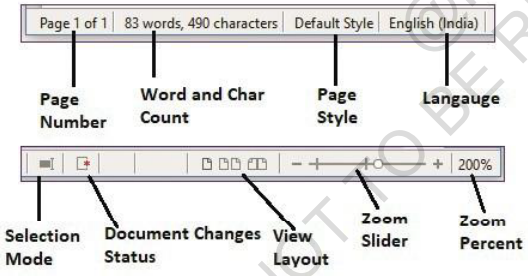


Fig. 3.7: Status bar

(h) **Zoom:** It allows to change the scale of the text and pictures in the document only for view. It does not affect the physical document. It is used to check the finishing quality of the document.

To know the meaning of other tools, position the mouse pointer on the tool and see the Tool Tip.

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Cursor movement

Text Cursor: The Text Cursor is a flashing vertical line in the body of the text. The 4 arrow keys (←↑↓→) on the keyboard are called as cursor control keys.

(a) Text Cursor Movement

- Observe the location of the Text Cursor.
- Press the different cursor control keys on the keyboard and watch how the Text Cursor moves around.

Let's Revise

Practice using the cursor control keys until you are able to position the text cursor exactly where you want it.

There are two keys above the cursor control keys marked as **Home** and **End**. Pressing the Home key jumps to the beginning of the line and pressing End key jumps to the end of a line.

- Position the Text Cursor on a line of the document.
- Press the Home key and observe that the Text Cursor jumps to the beginning of the line.
- Press the End key and observe that the Text Cursor jumps to the end of the line.

When these keys are pressed in combination with *Ctrl* key, the cursor jumps to the beginning and end of the document respectively:

- To jump to the beginning of a document, press the Ctrl key, hold it down, then press the End key ***(Ctrl+Home)***.
- To jump to the end of a document, press the Ctrl key, hold it down, then press the End key ***(Ctrl+End)***.

Mouse pointer

- This is the mouse pointer. It takes the pointer shape while moving it around the screen.
- The mouse pointer changes to I shape, when moved over the text in a document.

Moving the 'I' shaped mouse pointer over the text and clicking on the desired text, helps to get the text cursor while editing the document. Thus, the mouse is used to control the **Text Cursor** location.

Let's Revise

Practice positioning the Text Cursor using the mouse.

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Let's Practice 1

Open the LibreOffice Writer and enter the text as in the following paragraph. Save the document as "Activity 1" in your folder. Close the document.

Report

Field Visit to an IT Job Fair, Bengaluru

We visited the IT Job Fair, 2018 held on 5th July. It was quite knowledgeable

experience for us. We came to know about the various information of the IT Sector.

The ***Information Technology & Information Technology Enabled Services (IT-ITeS)*** sector is a field which is undergoing rapid evolution and is changing the shape of Indian business standards. This sector includes software development, consultancies, software management, online services and ***Business Process Outsourcing (BPO)***.

To open existing file
Keyboard shortcut:***Ctrl+O***
Mouse options: ***File →Open***

To undo the changes
Keyboard shortcut: ***Ctrl+Z***
Mouse options: ***Edit → Undo***

Copy option ***(CTRL+C)*** is used to make oneor more copies of the selected text whereas Cut option ***(CTRL+X)***is used to move theselected text from one place to another.

Editing the document

(a) Undo and Redo

- Open the existing file (For example, report.odt) and then start editing in it.
- If, by mistake, you have made some changes and now you want to erase the last change done, then use the Undo option.
- After undo command, again if you want to go back then use the Redo option.

(b) Moving and copying text

(a) ***Cut and Paste:*** It is used to move a selected text from one place to another.

- Select the text and click on ***Edit → Cut*** option or press ***CTRL+X***
- Place the cursor where the text has to be moved. Click on ***Edit → Paste*** option or press ***CTRL+V***

(b) Copy and Paste

It is used to make a duplicate copy of selected text.

Step 1: Select the text and click on ***Edit→ Copy*** option or press ***CTRL+C***

Step 2: Place the cursor where the text has to be duplicated. Click on ***Edit→Paste*** option or press ***CTRL+V***

(c) Selecting text

It is necessary to select the text to perform copy and paste operation. The selected text will be ***highlighted***. For editing the text you must first select the required text. The editing can be done on the selected text.

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(d) Selection criteria

To select the text in Writer, swipe the mouse cursor over text. There are several selection tricks to speed up the selection process as below.

To select a letter or letters	Drag the Mouse across the letter(s)
To select a single word at a time	Position the mouse pointer anywhere on that word anddouble click.
To select a complete sentence at a time	Position the mouse pointer anywhere in the sentence and triple click. (Triple click means to quickly click the left mousebutton three times.)
To select a complete paragraph at a time	Position the mouse pointer anywhere in the paragraph and quadruple click (Quadruple click means to quickly click the left mouse button four times.)
A document	Press Ctrl + A on the key board. Drag the mouse pointer till you see a right arrow which is white. Then click it thrice.

Let's Revise

Practice selecting words, sentences, paragraphs and shift click option until you can do it accurately and easily.

A portion of the text can be selected by clicking and dragging. To do this, position the mouse pointer at the beginning point of the selection, click and hold the left mouse button down, and move the mouse pointer to the end of the desired selection.

To de-select the text, move the mouse pointer to an unselected location and click the left mouse button once.

To select all of the text in a document, press ***Ctrl+A.*** ***Ctrl+A*** means to hold the ***Ctrl*** key down and press the ***A*** key.

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Let's Revise

Practice selecting all text till you can do it accurately.

(e) Selecting non-consecutive text items

The above process shows the selection of continuous text. But suppose if the text is not continuous and you have been asked to select a part of the text from a paragraph, then perhaps you may say that it is not

By using the keyboard

- select the first piece of text.
- press Shift+F8. This puts Writer in 'Adding selection' mode.
- use the arrow keys to move to the start of the next piece of text to be selected. Hold down the Shift key and select the next piece of text.
- repeat as often as required.
- press Esc to exit from this mode.

By using the mouse

- select the first piece of text.
- hold down the Ctrl key and use the mouse to select the next piece of text.
- repeat as often as needed.

possible to select the non-consecutive text. But Writer provides a way to select the non-continuous text using the keyboard and mouse. Figure 3.8 shows the selection of non-consecutive items.

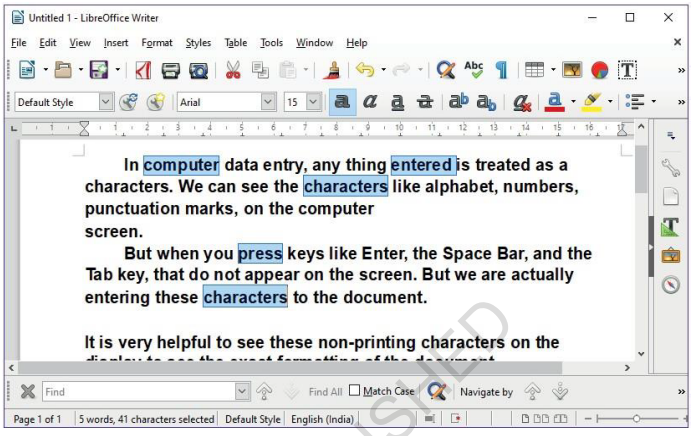


Fig. 3.8: Selecting Non-Consecutive Text Items

To select the vertical block of text select from menu:
Edit → Selection Mode → Block Area,
or press *Ctrl+F8*
(Keyboard shortcut).

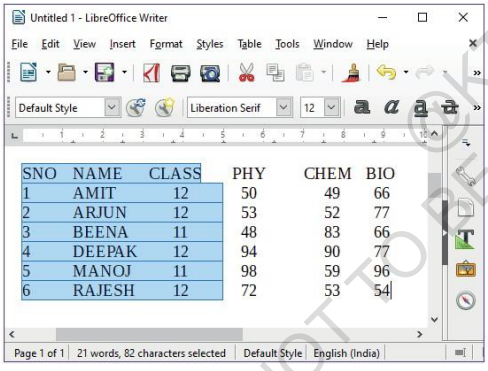


Fig. 3.9: Selecting vertical block of text

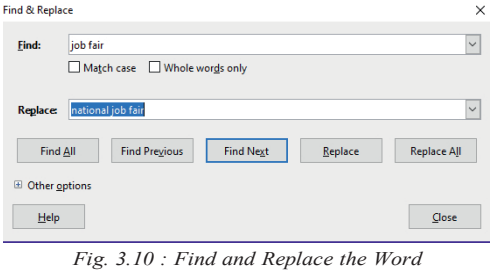


Fig. 3.10 : Find and Replace the Word

(f) Selecting a vertical block of text

It is also possible to select a vertical block or 'column' of text that is separated by spaces or tabs (Figure 3.9).

(g) Find and Replace

This feature is used to search for a text and replace it with other text.

- Select ***Edit → Find & Replace***, a dialog box will open.
- Type the text to find in the ***Find*** box.
- To change the text with different text, enter the new text in the ***Replace*** box. For example, while writing the paragraph the word 'IT Job Fair' was typed but it should be 'National IT Job Fair'. So, let's replace it (Figure 3.10)

Step 1: Click on ***Edit Menu → Find & Replace*** option or press ***CTRL+F***

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Step 2: Write text under Search For option and click on Find button to locate the entered word. This will select the word which you want to search for. Also, you can click on Find All to select and display all occurrences of the entered text.

Step 3: Write the text under Replace with option. Now click on Replace if you want to change only first occurrence of it and use Replace All to replace all the matching occurrences.

Find *only locates the text given in* Search *for whereas* Replace *changes the text into the* Replace with text.

Find *will search one instance at a time whereas* Find All *will search all instances in one go.*

(h) Jumping to the page number

Sometimes we may require to jump to a particular page number. It becomes difficult to scroll down if it is a large document with several pages. In such a situation, *'Go to Page'* feature of Writer is useful. To do this, select the ***Edit Menu→ Go to Page (Keyboard shortcut: Ctrl+G)***. Specify the page number in the dialog box. The cursor will move to the first character of the specified page number directly (Figure 3.11).

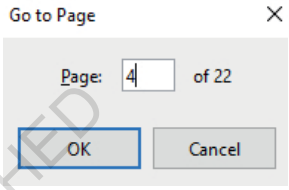


Fig. 3.11 : Go to Page

(i) Non-printing characters

In computer data entry, anything entered is treated as a character. We can see the characters like alphabet, numbers, punctuation marks, on the computer screen.

But when you press keys like Enter, the Space Bar, and the Tab key, they do not appear on the screen, but we are actually entering these characters in the document.

It is very helpful to see these non-printing characters on the display to see the exact formatting of the document.

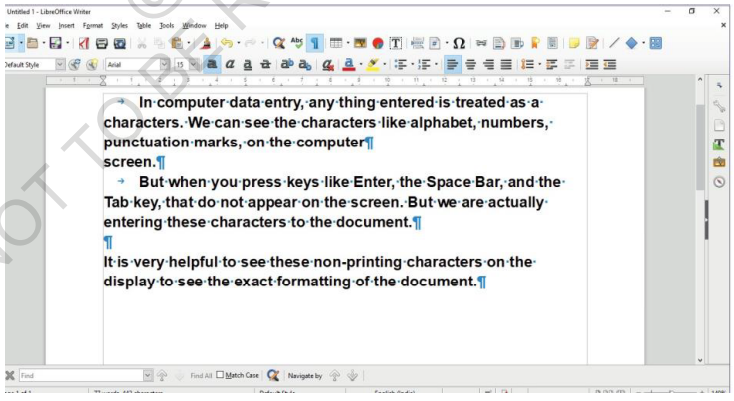


Fig. 3.12: Non-Printing Characters

To display the non-printing characters, press the toggle formatting mark (¶) or use keyboard shortcut ***Ctrl+ F10***. The tab space is shown by → sign and spacebar is shown by dot (.) as shown in Figure 3.12.

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(j) Checking spelling and grammar

While writing a report on paper, sometimes we may not remember the spelling of some words. In this situation we refer to the books or confirm the spelling from teachers or parents. Also while processing a document, we may commit spelling mistakes. In such cases, the Writer helps us to correct the spelling. It also provides a grammar checker to check the grammar of the sentence. It can be used separately or in combination with the spelling checker. This is one of the important features of any word processing application.



Fig 3.13. Context Menus for Suspected Grammar Errors

If grammatical errors are detected, they are underlined by a wavy blue line. Right-clicking on this line brings up a context menu as shown in Figure 3.13. The first entry in the menu describes the suspected broken grammatical rule. We can do the correction as suggested.

So after typing a paragraph of a report, one can check the spelling and grammar. A spelling checker checks to see if each word in the document is in the installed dictionary.

To check the spelling and grammar of the document (or selected text), select **Tools → Spelling and Grammar,** or click the **Spelling and Grammar** button on the Standard toolbar, or press the keyboard key F7.

The Spelling and Grammar dialog (Figure 3.14) opens.

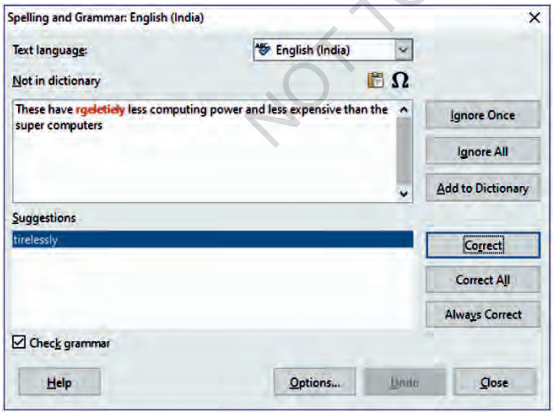


Fig. 3.14: Spelling and Grammar dialog box

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You can choose to restart fromthe beginning of the document when the check reaches the end of the document.

Automatic Spell Checker checks each word as it is typed and displays a wavy red line under any unrecognised word. Right-click on an unrecognised word to open a context menu (Figure 3.15). Certain suggestions will be displayed for the selected word. Click on the most appropriate word out of the suggested words to replace the underlined word. After making corrections, the line disappears.

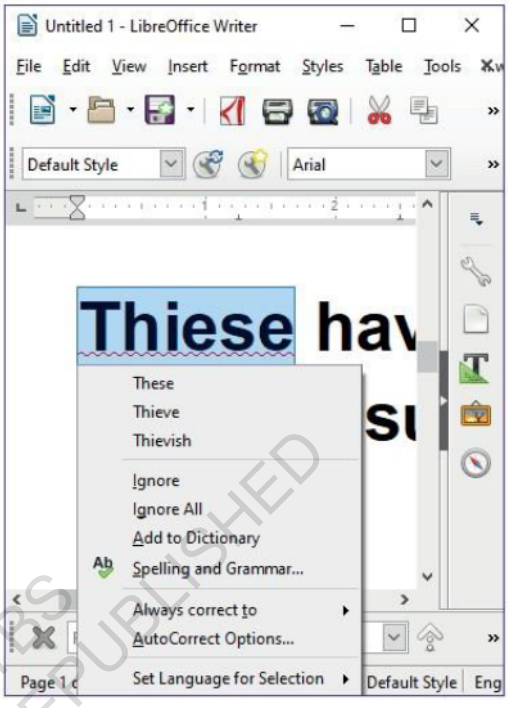


Fig. 3.15 Right Click to Spell Check

(k) Using synonyms and the thesaurus

Sometimes you search for a word having a similar meaning to the word you have in mind. A word processor helps to look up synonyms (different words with the same meaning) and antonyms (words with the opposite meaning) in the thesaurus. The list of synonyms can be accessed from a context menu (Figure 3.16). Right-click on a word and point to **Synonyms** on the context menu. A submenu of alternative words and phrases are displayed. Click on a word or phrase in the submenu to replace it with the highlighted word or phrase in the document.

Synonyms are different from a dictionary. A dictionary contains definitions and pronunciations, whereas thesaurus will have words with similar meanings or opposite meanings.

Let's check the thesaurus for words which have similar meanings to *'market'* in *'IT job market'*.

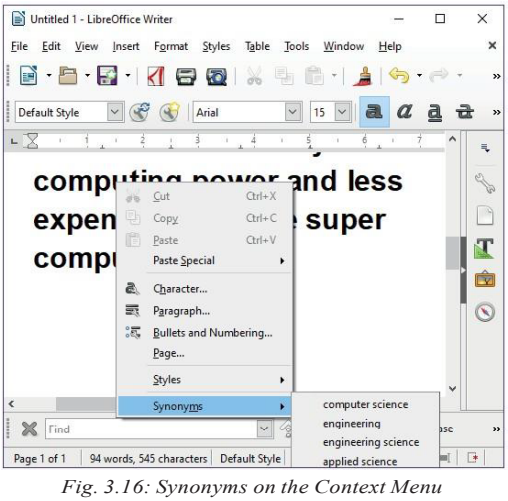


Fig. 3.16: Synonyms on the Context Menu

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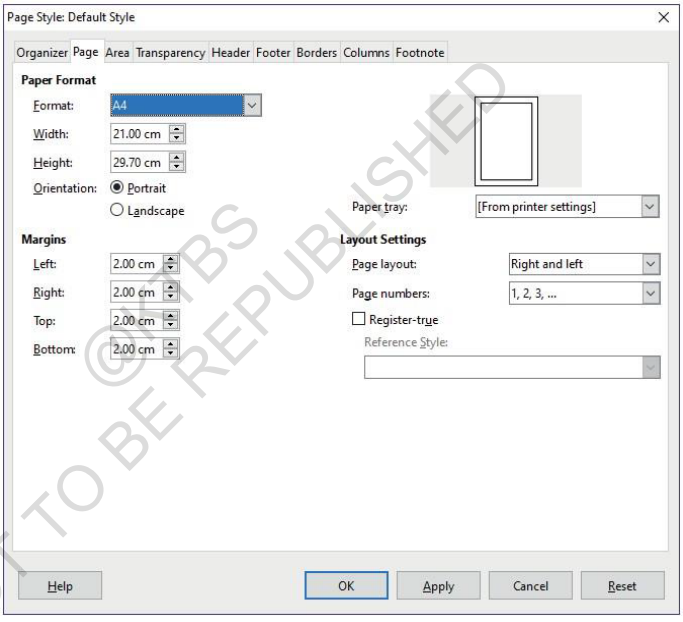
Formatting a document

The first step in document preparation is to use page setup. The Page Formatting is explained in the next section. But for the document preparation, Page setup is taken here.

To setup a page, select and click on the ***Format*** → ***PageSetup*** and the ***Page*** option.

Page style dialog

The Page style dialog box has several options as shown in Figure 3.17.



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Fig. 3.17 : Page Style Dialogue

It allows to select paper size and format (A4, A5, B4, Letter). User can adjust *'Orientation'* as *Portrait* or *Landscape*. The user can set the Margins (Left, Right, Top, Down).

Formatting text

Formatting Text refers to the formatting of paragraphs and characters. To do the formatting, first select the text and then apply the required text formatting features.

There are various methods of formatting text. We can apply any one method as per the suitability. These methods are

- Use the menu options from menu bar.
- Use the readily available buttons on the formatting toolbar.
- Use the context menu. The context menu appears by right clicking on the selected text.
- Use the keyboard shortcut.

(a) Removing manual formatting

To see the effect of formatting the text, first remove manual formatting. For this, select the text and choose **Format → Clear Direct** Formatting from the Menu bar, or click the Clear **Direct Formatting** button on the Formatting toolbar, or use ***Ctrl+M*** from the keyboard. It will clear the existing formatting on the text and then you can apply the fresh formatting features.

(b) Common text formatting

Some of the common text formatting features generally used have been shown in Figure 3.18.

1. Changing font size – by selecting font size.
2. Changing font style – bold, italic, underline
3. Changing font type – by selecting font drop down.
4. Changing font colour – by selecting font colour icon.

On the Format Toolbar, you will find the buttons representing the letter a in Bold, Italic and Underline form. These are toggle buttons.

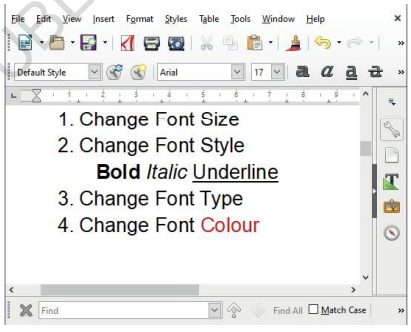


Fig. 3.18 : Common Text formatting

To apply any of the effect of bold, italic and underline, first select the text. Then press the desired buttons on the formatting toolbar. The keyboard shortcuts for bold *(Ctrl+B)*, for italic *(Ctrl+I)* and *(Ctrl+U)* for underline. Applying the required font effects will change the font as shown in the Figure 3.18.

(c) Changing text case

It is possible to change the case of the text. There are 6 Change Case options in LibreOffice Writer as shown

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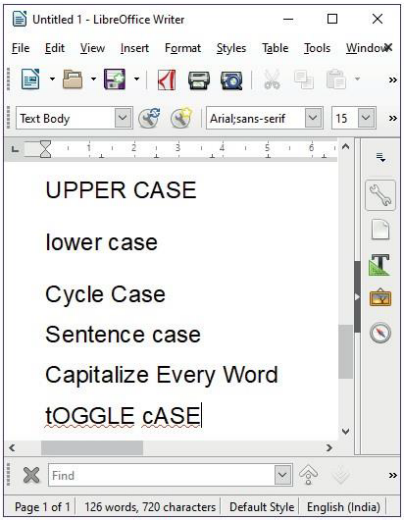


Fig. 3.19: Changing Case

in Figure 3.19. These operate on currentlyselected text.

(d) Superscript and Subscript

For example, in the date 5th July, the'th' character appearing after 5 is in the superscript case. In some situations, such as while writing scientific/chemical formula, such as O_2, the character 2 is in the subscript case.

Now, in our example, change the 5th July to 5th July.

- **To apply superscript:** Select the text and select ***Format → Text → Superscript***
- **To apply subscript:** Select the text and select ***Format → Text → Subscript***

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Let's Practice 2

Open the Word Processing software and perform the following.

1. Prepare your page as follows.

Size – A4	Orientation Landscape	Margins – 2' from left and right 1.5' from top and bottom

Use 'Page Setup' Dialogue Box. 2. Use Bold, Italic, Underline, Change Case, Font Color and Format the text as shown below and save it as Activity 3. Close the document.

REPORT

Field Visit to IT Job Fair

We visited the IT Job Fair, 2018 held at ***Bengaluru*** on 5th July. It was quite knowledgeable experience for us. We came to know about the various information in IT Sector.

The ***Information Technology & Information Technology Enabled Services (IT-ITeS)*** sector is a field which is undergoing rapid evolution and is changing the shape of Indian business standards. This sector includes software development, consultancies, software management, online services and **Business Process Outsourcing (BPO)**.

Paragraph style

A paragraph in a document can have several sentences, a single sentence, a single word, or no words at all. Every paragraph in a LibreOffice Writer document has a paragraph style. The paragraph style settings have a pop down window. One can change the paragraph style by clicking on the pop down window and selecting the choices as shown in Figure 3.20.

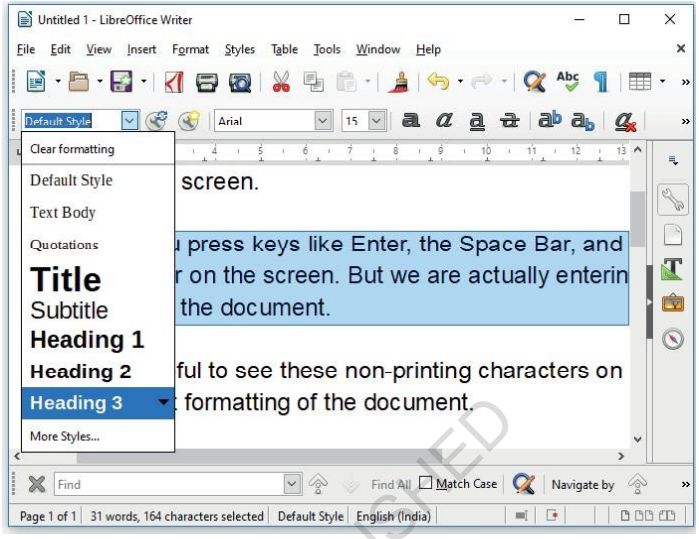


Fig. 3.20: Paragraph Style

(a) Indenting paragraphs

The entire paragraph can be indented in one step. Place the Text Cursor anywhere in the paragraph, select and click on the 'Increase Indent' tool. Each time when you click on the Increase Indent tool, the current paragraph's indent will increase. There is also a Decrease Indent tool that removes the indent.

Now increase the indent of the third paragraph in our assignment of Report. The output will be as shown below in Figure 3.21.

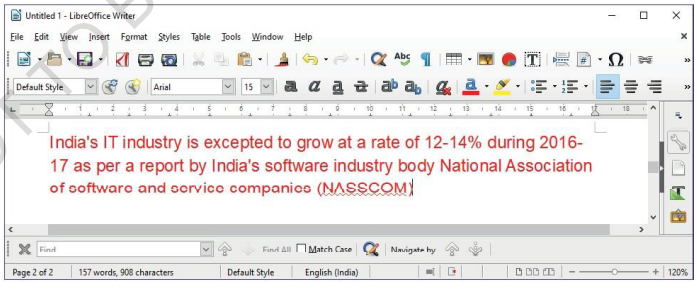


Fig. 3.21 : Paragraph Indentation

(b) Aligning paragraphs

The paragraph can be aligned as Left, Right, Center and Justify. To align the paragraph, place the text cursor in the title paragraph, select the appropriate tool (Left, Right, Center or Justify) from the Format Toolbar.

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To change the paragraph style

- First select the paragraph by paragraph selection method.
- Select the drop down arrow of paragraph style.
- Select Text Body from the pop down menu.
- Move the mouse pointer to outside the selected text and click the left mouse button once to de-select the text.

The selected words should now be centered in your document.

Move the mouse pointer over the four different alignment tools and read the Tool Tips, Align Left ***(Ctrl+L)***, Center Horizontally ***(Ctrl+E)***, Aligned Right ***(Ctrl+R)*** and Justified ***(Ctrl+J)***. The Justified option makes both the left and right sides of the paragraph line up with the margins. All these text alignments are shown in the Figure 3.22.

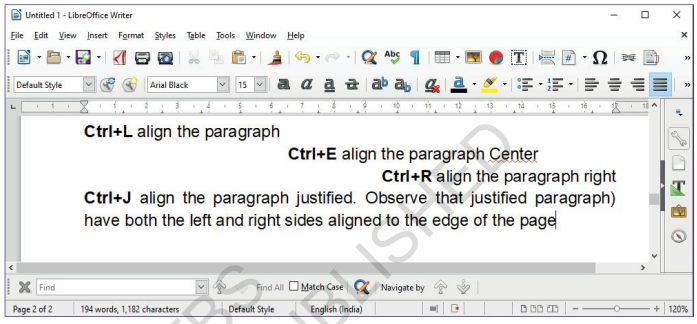


Fig. 3.22: Paragraph Alignment

To explore more paragraph formatting features ...

- Select a paragraph
- Click on the required tools on 'Formatting Tool Bar' Or
- Open ***Format*** → ***Paragraph*** Dialogue Box
- Select the appropriate tools
- Click ***Ok***

(c) Font colour, highlighting, and background colour

There are three more tools—Font Color, Highlighting, and Background tools on the Format Toolbar.

- To change the font color, select the small down pointing arrow ▼ on the right edge of the Font Color tool and select the colour from the colour box.
- To change the highlight colour, select the small down pointing arrow ▼on the right edge of the Highlighting tool and change the colour from the colour box.

Let's Practice 3

Open the LibreOffice Writer and perform the following:

1. Enter the text and format the paragraphs as shown in Table 3.1 in Column A.
2. Format it again as shown in Column B (Table 3.1). Save and close the document.

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Table 3.1

Column A	Column B
What is a computer? A computer is an electronic device that manipulates ***information*** *or* ***data.*** It has the ability to store, retrieve, and process data. **You can use a computer to type document,** send email, and browse the web. You can also use it to handle **spreadsheets, accounting database, management,** presentations, games, and more.	**What is a computer?** A computer is an electronic device that manipulates information or data. It has the ability to store, retrieve, and process data. **You can use a computer to type documents** send email and browse the Web.

(d) Using the bullets and numbering

You can assign the bullets or numbering to the list items in the document by using the options on the Bullets and Numbering toolbar. You can also create a nested list by using the buttons on the Bullets and Numbering toolbar. The general options available for bullets and numbering are shown in Figures 3.23 and 3.24 respectively. A nested list has a sub- list under it. Bullets and Numbering dialog contains more detailed controls(Figure 3.25).

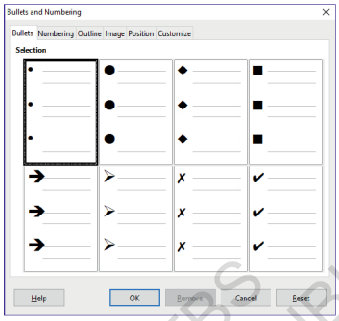


Fig. 3.23 : Bullets

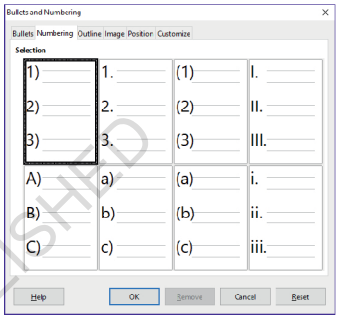


Fig. 3.24: Numbering

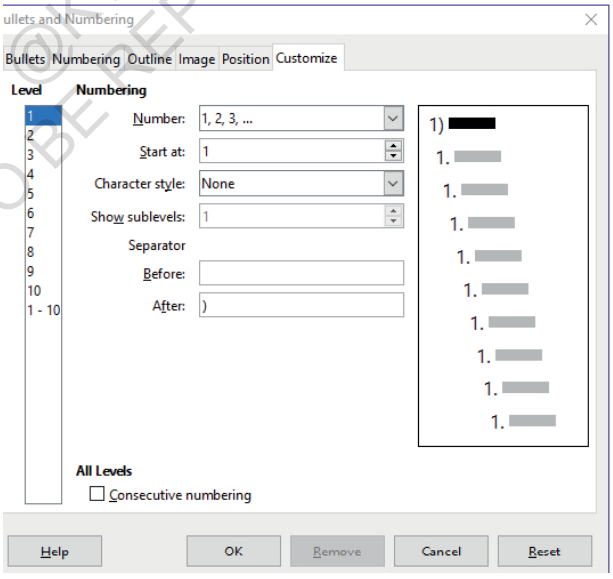


Fig. 3.25: Bullets and Numbering Dialog

(e) Assigning colour, border and background

1. To assign background colour to the paragraph, first select the paragraph.
2. Select ***Format*** → ***Paragraph*** → ***Area*** → ***Colour,*** then select the colour.

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3. To assign border to the paragraph, select the paragraph, then select *Format* → *Paragraph* → *Borders* → *Select Line – Style, Width, Colour.*

4. After selecting, click ***'Ok'***.

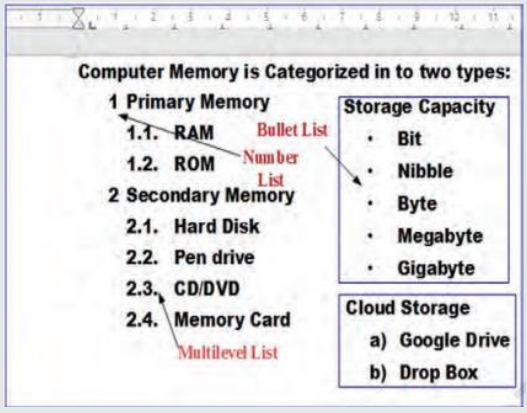


Fig 3.25 (a): List of bullets or Numbering

Let's Practice 4

Create anew document and enter the text. Assign the variety of bullets and numbering as shown in the Fig 3.25a.

Let's Practice 5

Make a list of bullets as shown in the adjacent figure. Save the document. Close the document.

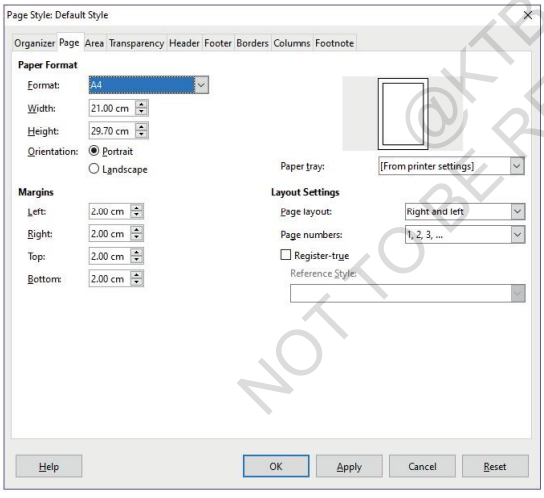


Fig. 3.26: Formatting Page

Page formatting

(a) Setting up basic page layout using styles

Page *styles define* the basic layout of all pages in the document.It includes page size, margins, header and footer, border and background, number of columns, etc. (Figure 3.26).

The *Default Style* is assigned to the new document by default. It appears on the taskbar of the writer window. To change the various parameters of the page, just clickon the *Default Style* on the taskbar or click on the ***Format → Page***.

(b) Inserting a page break

In multi-page documents the text flows from one page to the next as you add information. In certain cases we may require to break the current page and move the next heading or next chapter to the new page in

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the same document. In such cases we have to break the page forcefully and take the cursor to the next page to insert the new heading. This is called as a page break.

To break the current page and start the new page select ***Insert → Page Break*** from the Menu bar or use the keyboard command ***(Ctrl + Return)***.

The Page break can also be narrowed down to the line and column, by using ***Insert → Manual Break***, as shown in Figure 3.27.

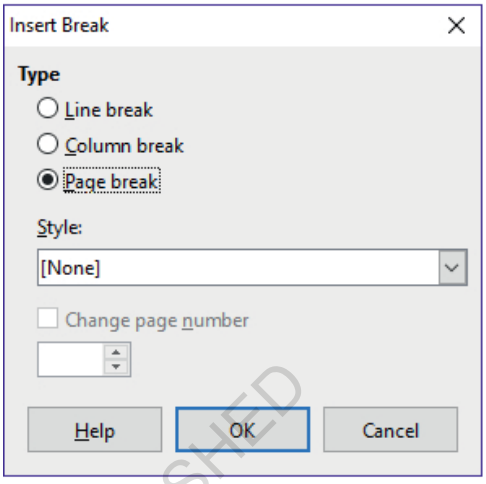


Fig. 3.27 : Insert Manual Break

(c) Creating header/footer and page numbers

In a multi-page document, it becomes necessary to add a header and footer to a document for more readability. Headers appear at the top of every page; footers appear at the bottom of a page. Headers and footers are specified by page styles; therefore, all the pages with the same page style will display the same header and footer.

To insert header in the document, select ***Insert → Header and Footer → Header***

To insert footer in the document, select ***Insert →Header and Footer → Footer***

You can give the document name or chapter name in the header section and page number in the footer section.

To enter page numbers in the footer section, place the cursor in the footer section and select ***Insert → Page Number.***

(d) Defining borders and backgrounds

Assigning borders and backgrounds to important paragraphs, frames and pages give attractive look to the document. For example, by assigning borders or backgrounds a reader is able to differentiate the points to remember from the regular text.

(i) Adding border: It is possible to apply the border, either to individual characters or to selected text. The process is similar in each case. The preset

Different types of software

1. Application Software
   a. LibreOffice
      • Writer
      • Calc
      • Impress
   b. Microsoft Office
   c. Gimp
   d. Adobe Photoshop
2. System Software
   (i) Windows
   (ii) Linux
   (iii) Mac

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Insert Elements in Writer document

- Images
- Shapes
- Objects
- Chart
- Symbols
- Special Character
- Tables
- Header and Footer
- Page Numbers
- Columns
- WordArt/Fontwork

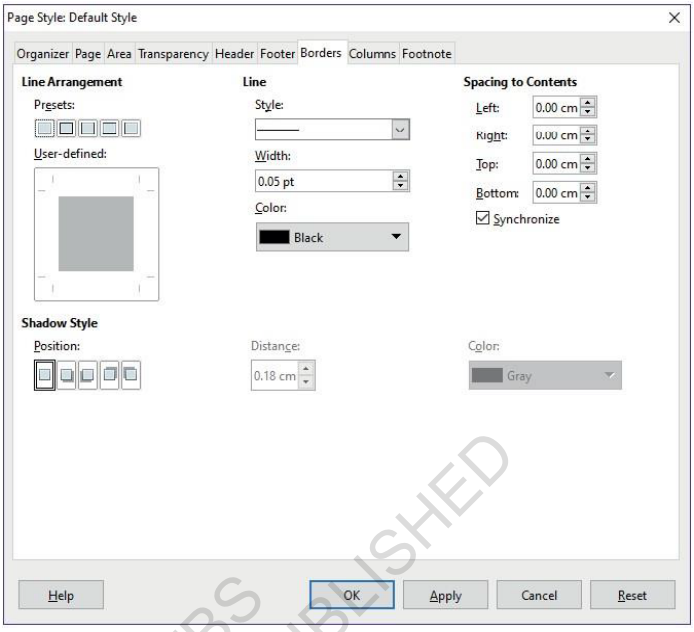


Fig. 3.28: Adding Border to Paragraph

shows the preview of the selected border (Figure 3.28).

(ii) Adding background colour: To add background color to the paragraph, select the paragraph. Select the Area tab from the Paragraph dialog. Alternately, right-click anywhere in the paragraph, and choose Paragraph from the context menu. In the dialog, select the Area tab, then choose Color. Select the color from the color grid to use for this frame, and then click **OK** to apply it to the background (Figure 3.29).

The color, gradient, bitmap, pattern, hatch can be added in the same way by clicking the respective buttons in the dialog.

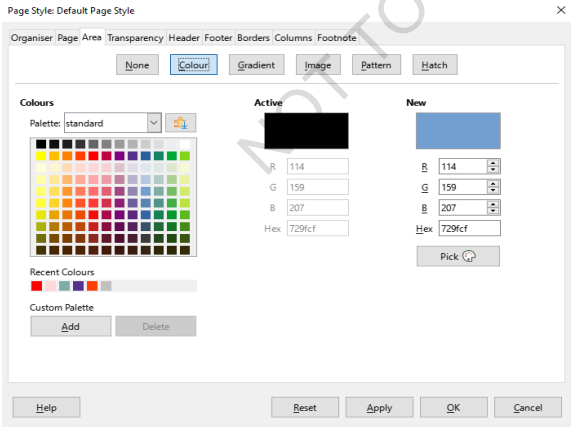


Fig. 3.29: Adding Background to paragraph

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To delete a color, gradient, bitmap, or other background, select **None** near the top of the Area page of the Frame dialog.

(e) Inserting images, shapes, special characters in a document

The regular text in the document can be made attractive and more informative by inserting various elements as listed below. You can also explore more tools to be inserted in the document.

(i) Inserting image: If you wish to include any picture or image in your document, the image file should be stored in your hard disk or external storage, such as Pen drive. To insert an image in your document, position the cursor where you want to insert the file, select ***Insert → Image.*** Another alternative is, just click on the insert image icon, located below the Formatting Toolbar. A file manger will appear from where you can select the image file. Select the image file and click on Open button or just double click on the image file. The image will get inserted in the file (Figure 3.30).

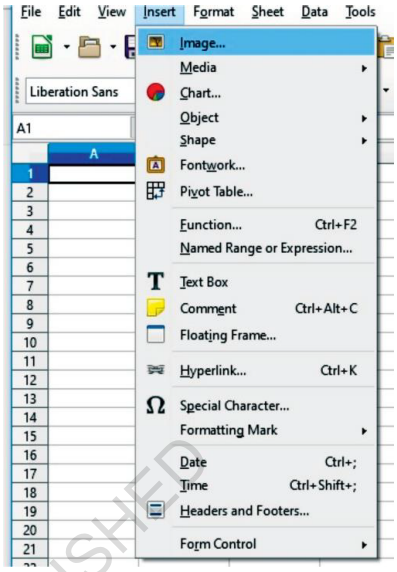


Fig. 3.30: Selecting Insert Image Option from Insert Menu Option

(ii) Inserting special characters: Sometimes we may require to enter special characters, such as ¶ or which cannot be typed by using the keyboard. LibreOffice Writer provides a feature to enter the number of special characters as shown in the following dialog. To do this select ***Insert → Special Character*** (Figure 3.31).

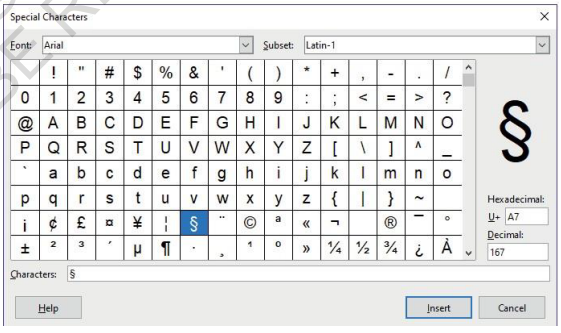


Fig. 3.31 : Inserting Special Character

(iii) Inserting shapes: It is possible to insert various shapes in your document. The variety of shapes consists of Lines, Arrows, Symbols, Stars, Callouts, Flowcharts. For this, keep the cursor in the place you wish to add the shape and select ***Insert → Shape*** and then choose the further element you wish to insert.

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(f) Dividing the document page into columns

You may have seen some documents where its page is divided into two or three columns. It is used in magazines and newspapers. It is possible to arrange the regular text into columns before or after adding the text.

To divide a page into columns, select ***Format → Column.*** A Column dialogue box as shown in Figure 3.32 will appear. Enter the number of columns in the Column entry box. Give the value for spacing between the columns and click **OK**. On selecting the number of columns up to 3, the formatted page will look like as shown in Figure 3.33.

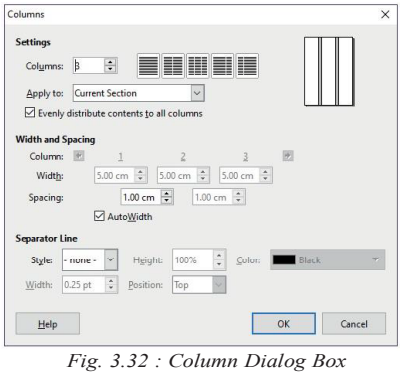
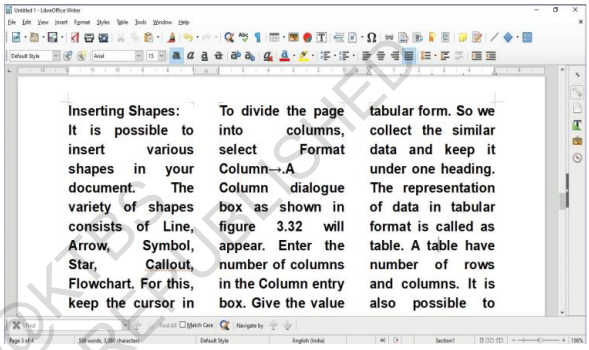


Fig. 3.32 : Column Dialog Box



Inserting Shapes: It is possible to insert various shapes in your document. The variety of shapes consists of Line, Arrow, Symbol, Star, Callout, Flowchart. For this, keep the cursor in

To divide the page into columns, select Format Column→.A Column dialogue box as shown in figure 3.32 will appear. Enter the number of columns in the Column entry box. Give the value

tabular form. So we collect the similar data and keep it under one heading. The representation of data in tabular format is called as table. A table have number of rows and columns. It is also possible to

Fig. 3.33: Page Formatted into 3 Columns

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(g) Formatting the shape or image

User can format the shape or image inserted in the document. For instance, user can change its size, colour, add borders, change its position, etc.

First, select the shape or image by clicking onit. Then make use of the Tool Bar to perform the required changes.

Creating and managing tables

- Create tables with rows and columns
- Delete rows/columns
- Merge cells
- Split cells
- Colour the table
- Change text direction

In a document it is normally seen that some data are represented in tabular form. So we can collect the similar data and keep it under one heading. The representation of data in a tabular format is called as table. A table hasa number of rows and columns. It is also possible to have a table with one row and one column.

Consider an example of representing your school timetable (Fig. 3.33a), your marksheet, various subjects taught by your teachers, etc.

various subjects. To represent such data you have to create a table. LibreOffice Writer provides a very rich tool for creating and managing a table. The various features of the table are:

Time Table Class IX									
Day/ Period	**1**	**2**	**3**	**4**		**5**	**6**	**7**	**8**
Time	7:30 to 8:10	8:10 to 8: 50	9:00 to 9:40	9:40 to 10:20	10:20 to 10:40	10:40 to 11:20	11:20 to 12:00	12:10 to 12:50	12:50 to 13:30
Day 1					LUNCH BREAK				
Day 2									
Day 3									
Day 4									
Day 5									
Day 6									

(a) Creating a table

The simplest way to create a table is, click the **Table** icon on the Standard toolbar. On the drop-down graphic, choose the size of the table. To create the table, click on the cell representing the last row of the last column that you want. Holding down the mouse button (Figure 3.34) over the Table icon will also display the graphic.

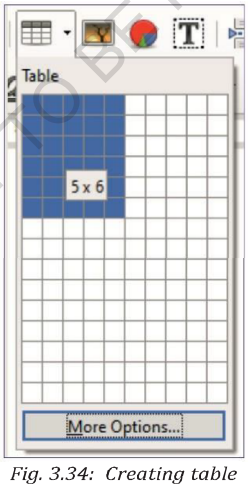


Fig. 3.34: Creating table

Another way to create a table is by using the Table dialog. Position the cursor where you want to insert the table, then:

Select ***Table → Insert*** Table from the Menu bar as shown in Figure 3.35 (or Press ***Ctrl+F12***) (Fig. 3.36).

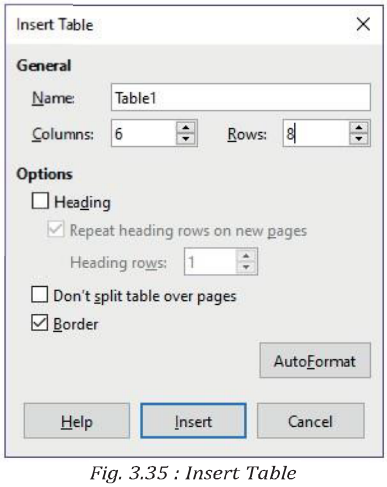


Fig. 3.35 : Insert Table

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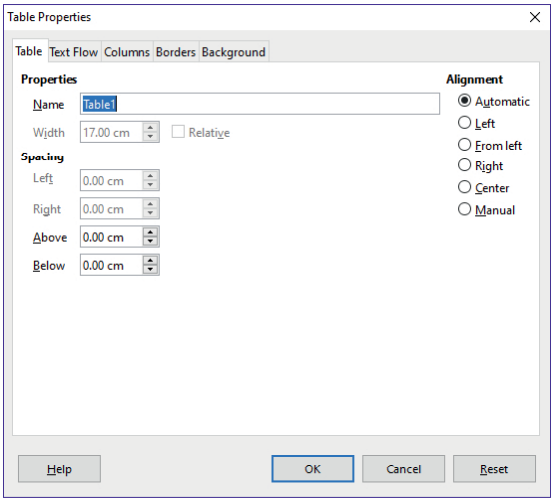


Fig. 3.36 : Table Properties

It will create a simple table. After creating a table, you can explore more features. For this, select ***Table → Properties.***

(b) Inserting rows and columns

To insert one row or column in the table:

- Place the cursor in the row or column before or after which you want to add new rows or columns.
- Click on the ***Rows Above or Rows Below icons in the Tabletoolbar*** to insert one row above or below the selected one.
- Click on the ***Columns Left*** or ***Columns Right icons in the Table toolbar*** to insert a column to the left or right of the selected one.
- Choose ***Insert → Rows Above/Below or Insert → Columns Above/Below.*** Set number to define the number of rows or columns to be inserted, and select the Position as Before or After.
- Click **OK** to close the dialog box.

(c) Deleting rows and columns

To delete one or more rows or columns, place the cursor in the row or column you want to delete and do one of the following:

- Click on the Rows or Columns icons on the Table toolbar
- Right-click and choose ***Delete → Rows*** or ***Delete → Columns.***
- Press *Alt+Delete* on the keyboard and use the arrow keys to delete rows or columns as described above for inserting.

(d) Splitting and merging tables

One table can be split into two tables, and two tables can be merged into a single table. Tables can only be split horizontally.

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(i) To split a table

- Place the cursor in a cell that will be in the top row of the second table after the split (the table splits immediately above the cursor).
- Choose ***Table → Split Table*** from the Menu bar.
- A Split Table dialog opens. You can select No heading or an alternative formatting for the heading—the top row(s) of the new table.
- Click **OK**. The table is then split into two tables separated by a blank paragraph.

(ii) To merge two tables

- Delete the blank paragraph between the tables. You must use the Delete key (not the Backspace key) to do this.
- Select any cell in one of the tables.
- Right-click and choose Merge Tables in the context menu. You can also use ***Table → Merge Table*** from the Menu bar.

(e) Deleting a table

(i) To delete a table

- Click anywhere in the table.
- Choose ***Table → Delete Table*** from the Menu bar.

  Or
- Select from the end of the paragraph before the table to the start of the paragraph after the table.
- Press the *Delete* key or the Backspace key.

(f) Copying a table

To copy a table from one part of the document and paste onto another part:

- Click anywhere on the table.
- From the Menu bar choose ***Table → Select → Table.***
- Press *Ctrl+C* or click the ***Copy*** icon on the Standard toolbar.
- Move the cursor to the target position and click on it to fix the insertion point.

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- Press *Ctrl+V* or click the ***Paste*** icon in the Standard toolbar.

(g) Moving a table

To move a table from one part of a document to another part:

- Click anywhere on the table.
- From the Menu bar, choose ***Table → Select Table***.
- Press *Ctrl+X* or click the **Cut** icon in the Standard toolbar.
- Move the cursor to the target position and click on it to fix the insertion point.
- Press *Ctrl+V* or click the **Paste** icon in the Standard toolbar. (This pastes the cells and their contents and formatting.)
- Return to the original table, click somewhere in it and then choose ***Table → Delete Table*** from the Menu bar.

Let's Practice 6

Create a table as shown in the figure below. Save it ir your folder.

Time Table Class 9									
Day/ Period	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	
Time	7:30 to 8:10	8:10 to 8: 50	9:00 to 9:40	9:40 to 10:20	10:20 to 10:40	10:40 to 11:20	11:20 to 12:00	12:10 to 12:50	12:50 to 13:30
Day 1					LUNCH BREAK				
Day 2									
Day 3									
Day 4									
Day 5									
Day 6									

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Printing a document

To quickly print a document, Click the Print icon. The entire document will be sent to the default printer defined for your computer.

Print preview

Print Preview is useful to check the document before printing. A user can check whether the document is prepared as needed, such as indentation, borders, etc.

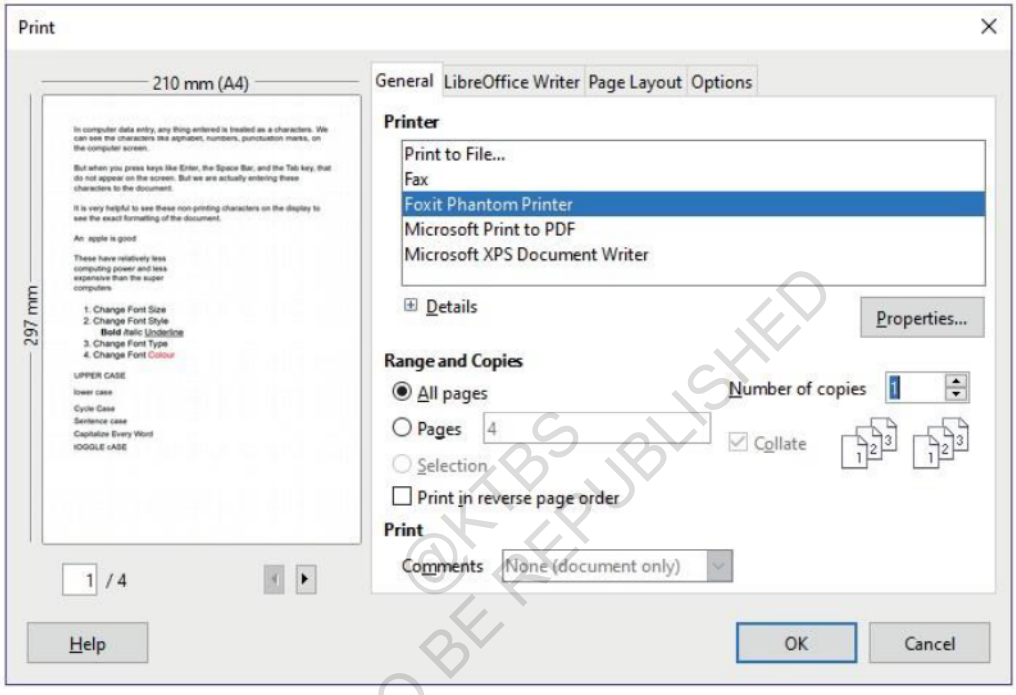


Fig. 3.37: Controlling Printing

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Controlling printing

To print the document with certain options, use the Print dialog (***File*** → ***Print*** or ***Ctrl+P***). A Print dialog box will appear as shown in Figure 3.37.

From the Print dialog, you can choose options as per your requirement. They are Printer, Properties, Print Range, Copies and Options. The selected options will work for the current document only.

If you click on the small triangle (▼), a list of names of printers (only those which are installed on your computer) will appear in line with the Name. You can select the printer which you want.

Printing all pages, single and multiple pages

One can select the printing option as per their choice. There are three options to print a number of pages in a document.

- To print all the pages in sequence, choose the option All pages.
- To print a single page, or number of non-consecutive pages, choose the option Pages, and give the page numbers separated by comma. If you want to print the pages that are consecutive give the range of pages: first and last page (for example 3-8).
- To print only the selected text, choose the option, Selection.

Mail Merge

Mail Merge is a very important feature of word processor. It is used to create a series of same documents with multiple addresses. Mail merge is the process of merging the main document (letter or certificates) with the mailing address of various people. The main documentis merged with the mailing address, hence the name mail merge. It is used to send invitations, letters or to print certificates for several people. For example, if you wish to inform your customers of a new product, then the company information and information about the new product are the same in all the documents, but the recipient information changes (first name, last name, address, greeting ...).

For example, if your principal or class teacher wants to send a letter or notice to your parents regarding any meeting or function, obviously, the matter of the letter will be the same but the addresses will be different for different parents. One way is, to create a letter in Writer, copy the address from address list to change the address of each set of parents and print the letter. The procedure of copying and changing is repeated as many times as the number of parents. This way creating multiple documents becomes very time consuming and tedious. It is not possible if there are hundreds or thousands of addresses. The word processor has a special feature of mail merge

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to accomplish this task in one stroke. In mail merge two documents are created. One with the common contents is the main document or form letter and other holding the address list is called the data source. The form letter contains the actual information and variable names for the data which varies in different letters. Data source contains values of the corresponding variables of the main document. For example, the address of all the parents with respective time would be stored in data source.

Form letter consists of the main document and the data source.

Creating the data source

A data source is a set of mailing addresses in the form of rows and columns generally called database. The content of the database is in the form of data records. Each row is a record of one person, which contains the various fields, such as name, address, pincode.

To create an address book using spreadsheet or database is little easier, as they use the table format to store the data. It is also possible to create an address book during the mail merge process using mail merge wizard (Figure 3.38[a]). Using Mail Merge:

1. Create a new document and type the letter to be sent to the multiple recipients.

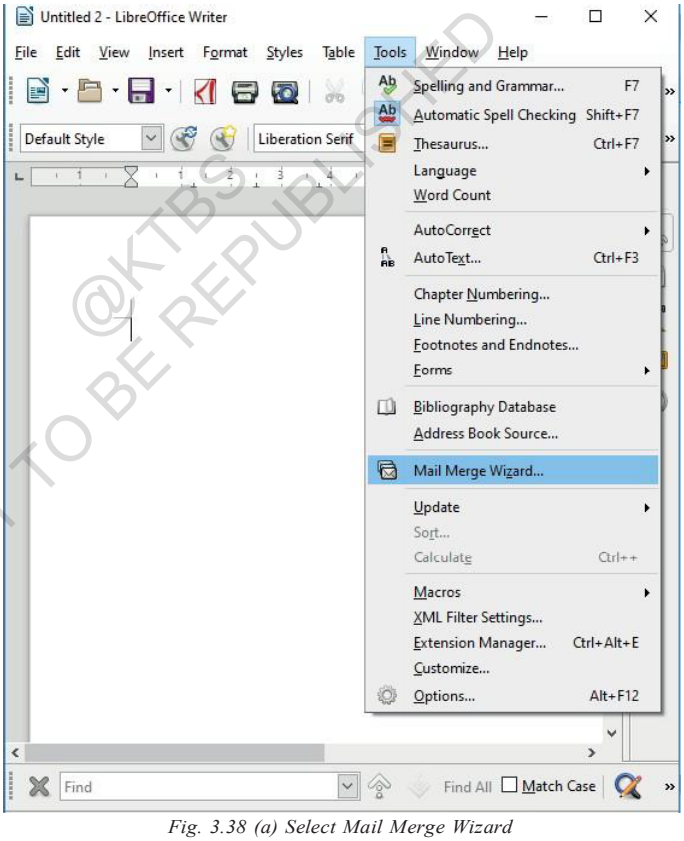


Fig. 3.38 (a) Select Mail Merge Wizard

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2. To create multiple letters using Mail Merge Wizard, select ***Tool → Mail Merge Wizard***, as shown. A window will appear as shown in Figure 3.38(b).

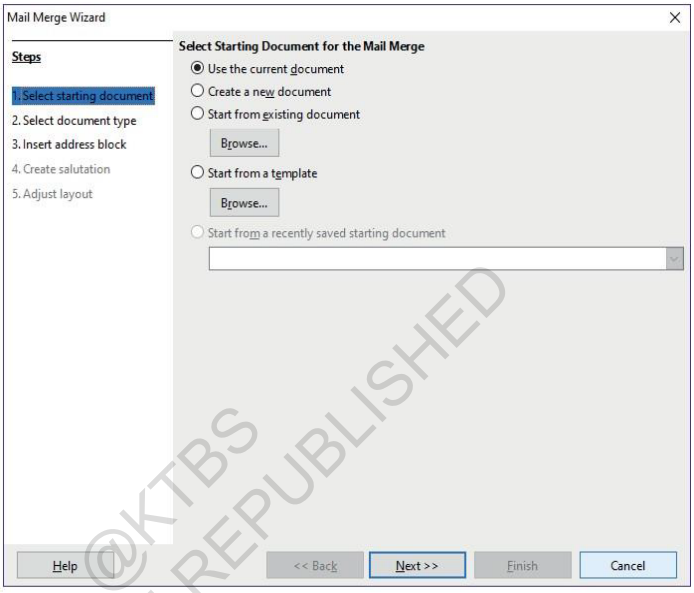


Fig. 3.38 (b) Select Main Document

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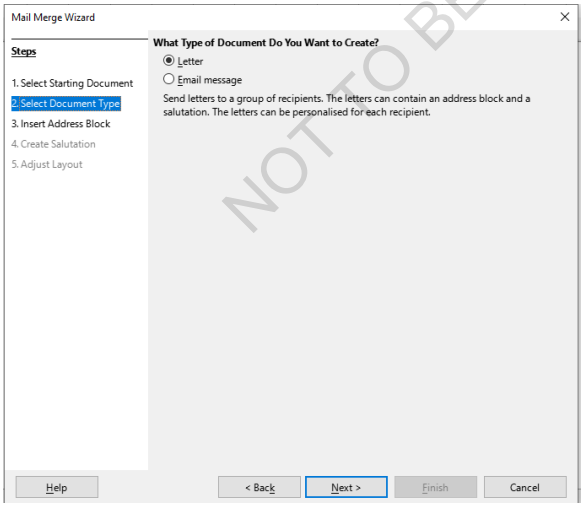


Fig. 3.38 (c) Select Document Type

3. Select Step1, ***'Select Starting document → Use the current document → Next'***. Click on the ***Next*** button move to the next step.
4. In Step 2, select the ***Document type → Letter → Next*** as shown in Figure (3.38c)
5. In Step 3, click on the button ***"Select Address List"***. The ***"Select Address List"*** window will open, which will

allow you to create the recipient list as shown in Figures 3.38 (d and e).

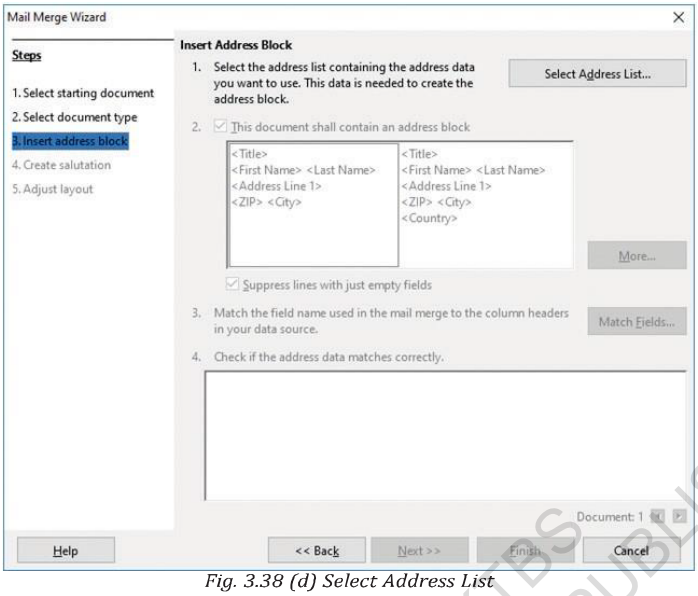


Fig. 3.38 (d) Select Address List

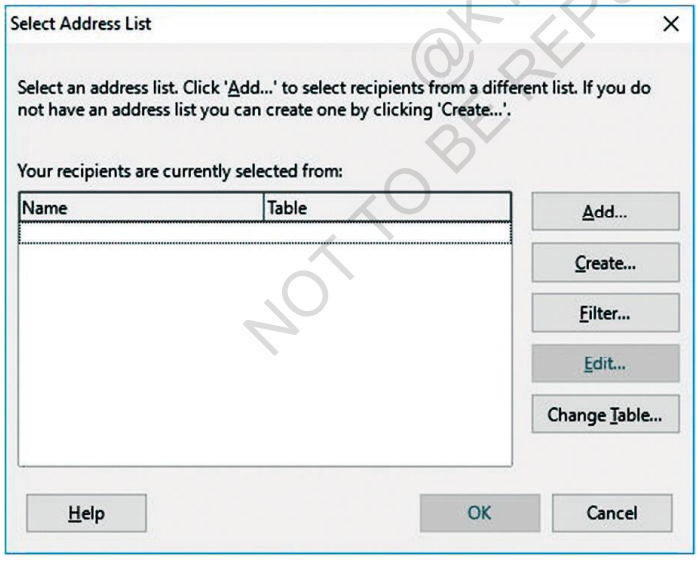


Fig. 3.38 (e) Create Recipient List

6. Click on the ***Create*** button. After clicking on the ***Create*** button a New ***Address List*** window will

appear as shown in Figure (3.38f). In this window under the ***Address Information*** section you can enter the information of the recipients as shown in the Figure 3.38 (f).

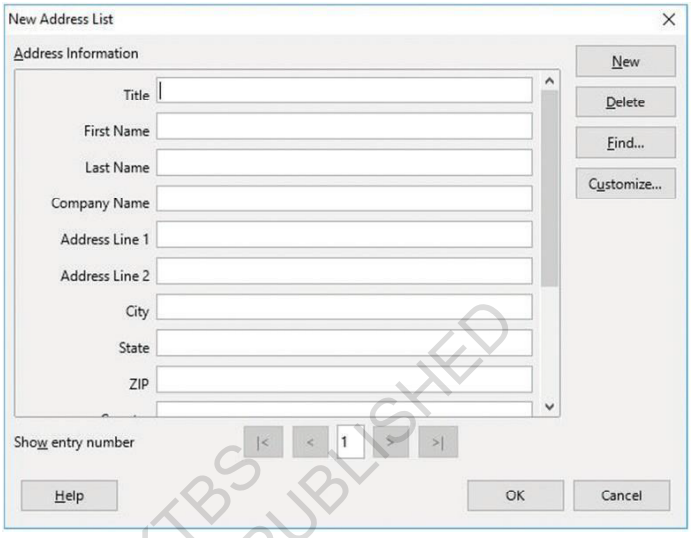


Fig. 3.38 (f) New Address List

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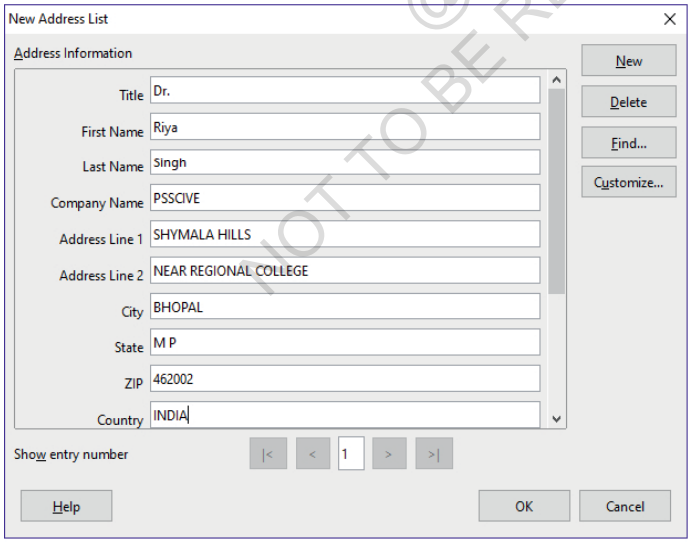


Fig. 3.38 (g) Adding New Address List

7. If you want to fill the data of the recipient as per the default fields, then enter the data as shown in Figure 3.38 (g).
8. If you wish to ***customise*** the fields of recipient information, click on Customise button. A ***'Customise Address List'*** window will appear as shown in Figure 3.38 (h). Now you can add, delete or rename any field name. You can also

change the order of appearance of the fields using up/down arrow button.

(a) Add (for a new field)

(b) Delete (to delete an unnecessary field)

(c) Rename (to change the name of the field)

After customising the fields, enter the data in the new format.

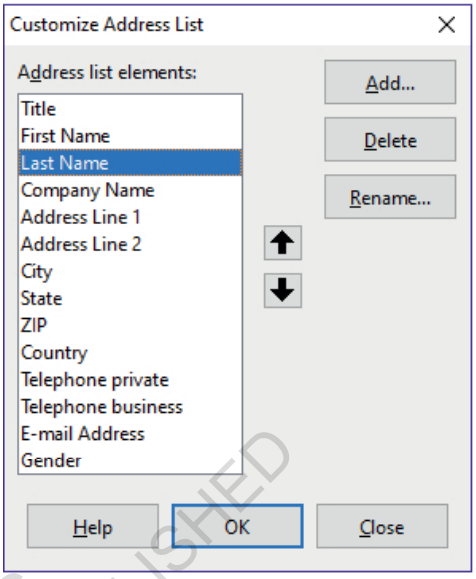


Fig. 3.38 (h) Customizing Filed Names

9. After entering the data of first recipient as shown in Figure 3.38 (g), click on the ***New*** button to enter the information of the next recipients. After entering the information of all the recipients, click on the ***OK*** button to close the list.

10. After clicking ***OK*** button, the ***Save As*** dialog box as shown in Figure 3.38 (i) will appear, which will allow to save the list of recipients in ***.CSV*** format (say MyList.csv) as shown in Figure 3.38(i).

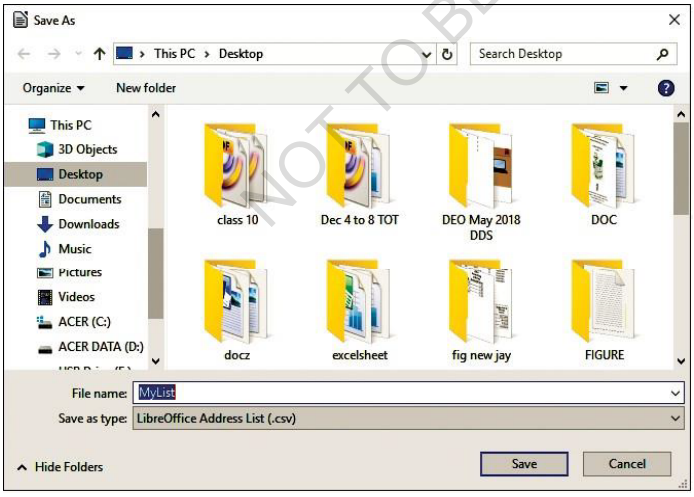


Fig. 3.38 (i) Save Recipient List in .CSV format

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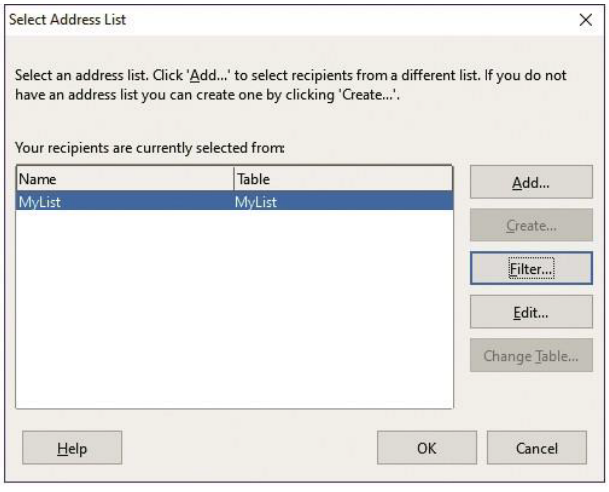


Fig. 3.38 (j) Recipient List Created

11. After saving the list, a window will appear as shown in Figure 3.38 (j), which will display the various recipients list created till now. You can select any of the created lists. Select the required list and click on ***OK*** button to send the letter.

12. After clicking on ***OK*** button, you will move to Step 3 of Mail Merge Wizard, and a window Insert Address Block will appear, which will show you the address block as shown in Figure 3.38 (k).

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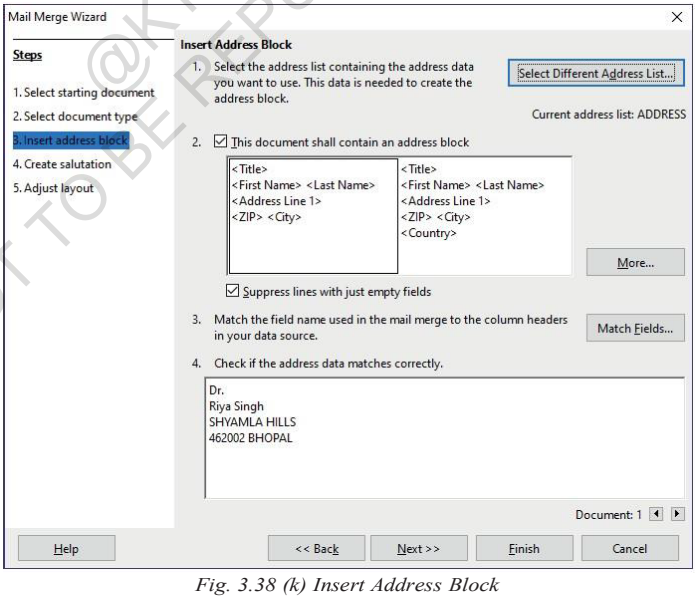


Fig. 3.38 (k) Insert Address Block

13. Click on ***Next*** button, you will move to Step 4 of Mail Merge Wizard. A ***Create Salutation*** window

will appear as shown in Figure 3.38 (l) to set the salutations formale and female recipients. A way of distinguishing one group from another is defined by choosing from the offered Field names, for example, Gender and by entering the Field value, for example, Female.

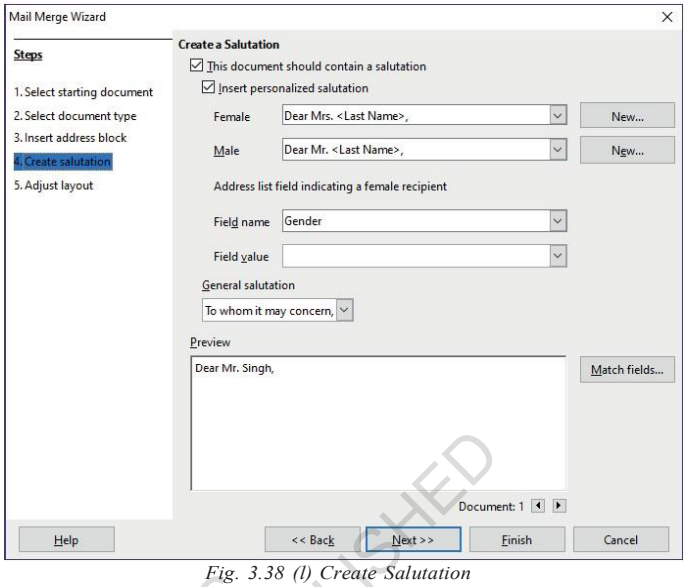


Fig. 3.38 (l) Create Salutation

14. Click on ***Next button***, you will move to last Step 5 of Mail Merge Wizard. An Adjust layout window will appear as shown in Figure 3.38 (m) to set the layout of the recipient address on the page. You can set the top and left margin. Click on Finish button to merge the letter with the recipients address.

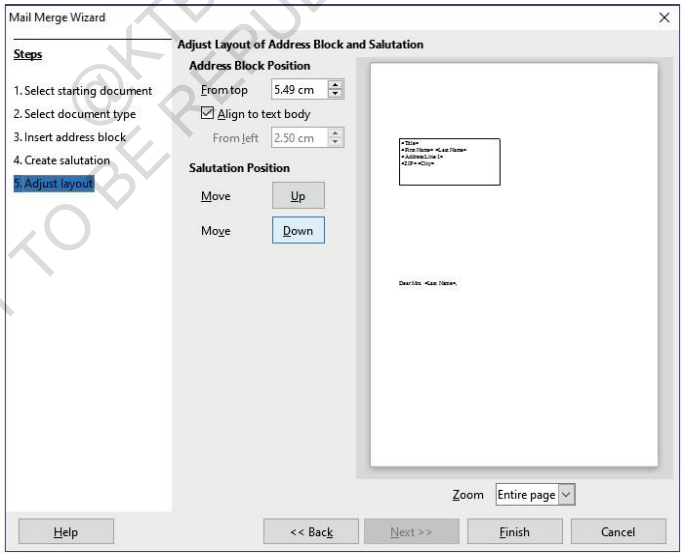


Fig.3.38 (m) Adjust Layout of Address Block

15. In the next step, the Writer will display the document with the Mail Merge Toolbar below the standard toolbar as shown in Figure 3.38 (n).

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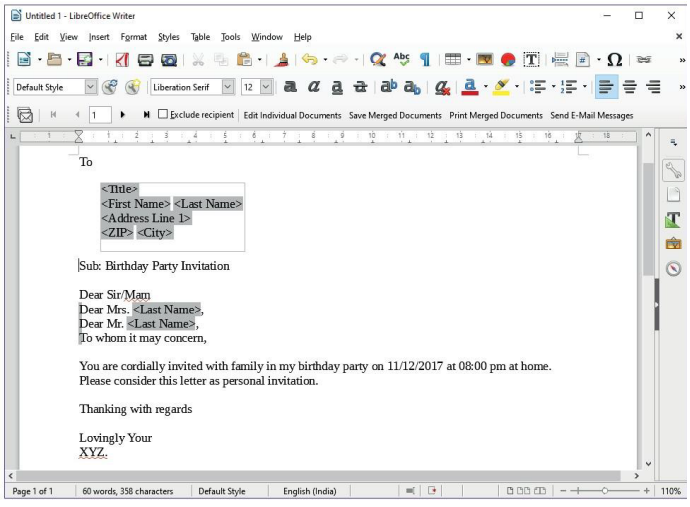


Fig. 3.38 (n) Letter with Mail Merge Toolbar

16. Now click on ***Edit Individual Documents*** button to merge the letter with the address of the recipients. Here you can verify all letters of the recipients before reading.

17. You can use the other options on the Mail Merge toolbar, such as

(a) to exclude some of the recipient check on the checkbox of ***Exclude recipient***.

(b) to save the merged document, click on the ***Save Merged Documents*** button.

(c) to print the merged document, click on the ***Print Merged Documents*** button.

(d) to send the letters by email, click on the ***Send Email Messages*** button. Shown in Fig 3.38(o)

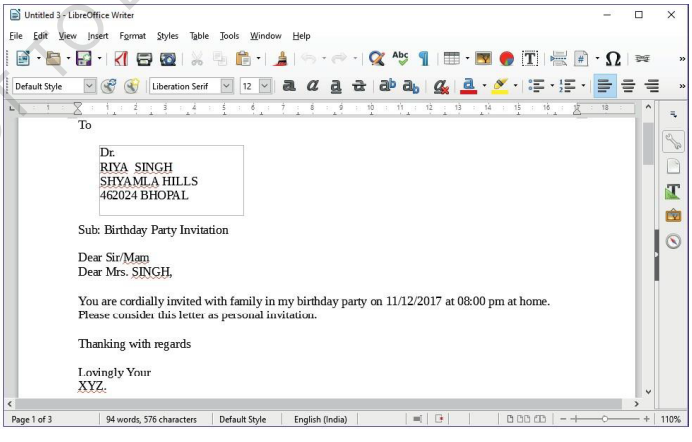


Fig. 3.38 (o) Final letter merged with the address

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Let's Practice 7

1. Type the letter shown in the figure given below. Do not type the words and symbols appearing in between <...>, as these are the fields. Keep single space. Save the document in your folder.

Computer Centre
DMS School
Bhopal

Date: 3 August 2018

<Title>
< Address Line1 >
< Address Line2 >

Teacher Parent Interact Day

Please take this opportunity to discuss the progress of your child <Child Name> by meeting the class teacher on <date> at <Time> at the Classroom.

Principal

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2. Use Mail Merge. For Data source/Address List, enter data of 10 people as shown in the table

Title	First Name	Last Name	Address 1	Address2	Child Name	Date	Time
Mr.	Raman	Sinha	Jayanagar	Bengaluru	Deepti	25-07-2018	9:00 am
Dr.	Manish	Mangal	Mallesh waram	Bengaluru	Shravya	25-07-2018	9:30 am
Mrs.	Manmeet	Kuar	K R Nagar	Bengaluru	Simran	26-07-2018	9:00 am

Let's Practice 8

1. Open the Word Processing software and prepare the following.

- Certificates
- Invitation cards
- Forms

- Letters
- Announcements
- A banner

2. Save the document. Create its PDF file.

Check Your Progress

A. Multiple Choice Questions

1. Which of following is not a component of the Office Suite?
   (a) Writer
   (b) Impress
   (c) Internet Explorer
   (d) Base
2. The most widely used word processing software in late 1970s was_____.
   (a) Word Perfect
   (b) Word
   (c) Word Star
   (d) Writer
3. We can change the mistakes noticed in which of the following?
   (a) Electronic typewriter
   (b) Word processor software
   (c) Simple typewriter
   (d) Both (a) and (b)
4. Header and Footer is available in which of the following menus?
   (a) File Menu
   (b) Insert Menu
   (c) View Menu
   (d) Edit Menu
5. To hide or view ruler we should go to which of the following menus?
   (a) Tools Menu
   (b) Insert Menu
   (c) View Menu
   (d) Edit Menu
6. To check the grammar we should go to which of the following menus?
   (a) Tools Menu
   (b) Insert Menu
   (c) View Menu
   (d) Edit Menu

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7. To replace a word Bombay with Mumbai, we should go to which of the following menus?
   (a) Tools Menu
   (b) Edit Menu
   (c) View Menu
   (d) Language Menu

8. To close an opened document, we should to go to which of the following menus?
   (a) File Menu
   (b) Insert Menu
   (c) View Menu
   (d) Edit Menu

9. Which of the following is the default extension of the writer file?
   (a) .obt
   (b) .doc
   (c) .odt
   (d) .docx

10. Which of the following technique selects a sentence in Writer?
    (a) Single click (Pressing left button of mouse)
    (b) Double Click
    (c) Triple Click
    (d) None of the above

11. Which of the following is a shortcut key to Redo any operation?
    (a) CTRL + R
    (b) CTRL + Y
    (c) CTRL + X
    (d) CTRL + Z

12. To find a word in a document we can use which of the following function key?
    (a) F5 key
    (b) F8 key
    (c) Fl key
    (d) None of the above

13. Spellings are corrected automatically in Writer because of which of the following features?
    (a) Auto Text
    (b) Auto Correct
    (c) Auto Complete
    (d) All of the above

14. The default table size is_____.
    (a) 1 column, 1 row
    (b) 2 columns, 1 row
    (c) 2 columns, 2 rows
    (d) 1 column, 2 rows

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15. What is the shape of the mouse pointer when drawing a table?
    (a) Pencil
    (b) White pointing arrow
    (c) Black pointing arrow
    (d) Black plus

16. Which shortcut key is used for automatic spell checking?
    (a) SHIFT + INSERT
    (b) SHIFT + F7
    (c) CTRL + INSERT
    (d) TAB + INSERT

17. Which shortcut key is used to insert table?
    (a) CTRL + F12
    (b) ALT + DELETE
    (c) CTRL + DELETE
    (d) TAB + DELETE

18. Which of the following is not valid type of data source in mail merge?
    (a) Spreadsheet
    (b) Text files
    (c) MySQL
    (d) CSV file

19. The default orientation of a page in Writer is_____.
    (a) portrait
    (b) landscape
    (c) book
    (d) None of the above

20. Which of the following does not come under page formatting?
    (a) Setting margins
    (b) Find and replace
    (c) Setting header and footer
    (d) Page orientation

21. Saving an existing document with some other name using the Save As option_____.
    (a) replaces the current document
    (b) leaves the current document intact
    (c) is not possible
    (d) closes the document

22. Keyboard shortcut to italicise the selected text is
    (a) Ctrl + U
    (b) Shift + U
    (c) Ctrl + I
    (d) Shift + I

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23. Which option should be used to type H_2O, to get 2 at its proper place?
    (a) Bold
    (b) Superscript
    (c) Underline
    (d) Subscript

24. What option should be used to to change the word 'Books' to the word 'Copies' in a document?
    (a) Find
    (b) Find and Replace
    (c) Spell check
    (d) Spelling and grammar check

25. What is the option to print the document so that the height of the page is less than its width?
    (a) Landscape
    (b) Portrait
    (c) Indent
    (d) Tab setting

B. Fill in the blanks

1. The submenu item with three dots '...' just after the submenu name, denote that it will open the .
2. The submenu item with right hand side arrows '►', means, clicking on it will open_____.
3. Formatting Tool Bar contains various options for .
4. By pressing the Home key you jump to the _____ and by pressing the End key you jump to_____.
5. After using the undo command, to go back again to the previous position the,_____option or command is used.
6. Double click is used to select the_____.
7. Headers appear at the_____and footers appear at the_____of every page.
8. In the_____page orientation the height of the page is less than its width.
9. The_____option is used to see how the document will look like when it will be printed.
10. In mail merge the file holding the mailing addresses is called as_____.

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11. Current file name is shown in _____ bar.
12. Open icon for opening a file is part of _____Tool Bar.
13. To jump to the beginning of a document use _____key.
14. To jump to the end of a document use _____key.
15. mouse pointer is used for _____.
16. mouse pointer is used for _____.
17. mouse pointer is called as _____.
18. The keyboard shortcut for cut is _____
19. The keyboard shortcut for copy is _____.
20. The keyboard shortcut for paste is _____.
21. The keyboard shortcut for selecting whole document is _____.
22. _____ menu is used to go to a particular page in a document.
23. The keyboard shortcut to check spellings and grammar is _____.
24. Page setup option is available in _____.
25. _____ alignment option makes both the left and right sides of the paragraph lineup with the margins.
26. The tab used to add images, shapes, and special characters in a document is _____.
27. The keyboard shortvut to print a document is_____.
28. The data source for mail merge contains _____
29. The two documents needed for mail merge are _____ and _____
30. The main document in mail merge is also called as _____.

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C. Match the following:

Column A	Column B
i. Title bar	a. Commonly used commands as icons
ii. Main menu bar	a. Bottom of worspace
iii. Standard toolbar	b. Icons to format the document
iv. Formatting toolbar	d. File name of the document
v. Status bar	e. Contains menu items

C. Short answer questions (50 words)

1. In a document all the occurrences of word "this" have to be changed to "these". Which option is suitable for this and what is the shortcut command used for it?
2. Which two documents are essential for mail merge?
3. Explain the concept of Word Processing.
4. List the various software available for word processing.
5. Write difference between a text editor and a word processor software. Write the name of any text editor or word processor available in market.
6. List the various components of LibreOffice suite. Explain each component in one line.
7. Compare the features of manual typewriter, electronic typewriter and word processing software.
8. Explain the different views to display a document.
9. What are the various methods for selecting the text in a document? Give the steps to select a paragraph.
10. What are the special characters? How can you insert them in a document?
11. How will you count the total words of a document?
12. What are the various menu of Writer GUI?
13. What is the default extension assigned to the document in Writer when you save it? Write down the steps to save the document to Microsoft Word document?
14. What is the importance of password in the document? How will you protect the document using passwordin Writer?
15. What is mail merge? Write down the steps to create mailing labels to paste on wedding cards.
16. What are the advantages of table? Prepare your report card of Class VIII in table format.
17. Write an application to your Principal for field visit to any IT Industry.

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Practical Exercise

1. Open writer with the help of icon and exit. Again open writer from the applications option available on the desktop.
2. Draw all the icons of standard toolbar and write its uses in your practical note book.
3. Draw all the icons of formatting toolbar and write its uses in your practical note book.
4. Create a new text document (using menu bar) showing your name address and the name of your school. Save this file with name mydocument1 at the desktop location.
5. Open the documents mydocument1; modify it by adding your division and name of your class teacher. Save this file as mydocument2 at any other location.
6. Open both the documents and switch from one to other. Close one of them and save other as mydocument3 with password.
7. Open the document mydocument3 and zoom it for 50%, 75%, 130% and 200%.
8. Open the file my document l and type the text given in the box below:

> The Word completion facility is little different than Auto Correct facility. While typing as and when you type two-three characters, Writer tries to guesswhich word you are typing and offers to complete the word for you. To accept the suggestion, press Enter. Otherwise, continue typing. Note that this facility is available only for those words which are already typed in the same document that is the word completion facility is available for a word getting typed at leastfor second time.

Close the document and save it.

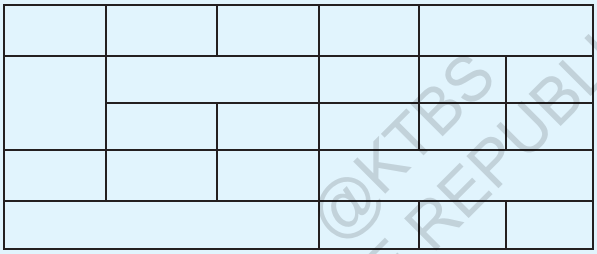
9. Open the mydocument2 and type at least 15 cities of your state. Use Cut and Paste to arrange them in dictionary order.
10. Open the document mydocument3 and copy the firstthree sentences from mydocument l and close both the files.
11. Open mydocument2 and type the following at the end of the document:

S. No.	Name	City	Total Marks (OUT OF 300)
1.	RIYA	BENGALURU	245
2.	HARMAN	MYSURU	267
3.	JAYANT	TUMAKURU	276

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4.	AVIRAL	KOLAR	284
5.	ABHUDAY	HASSAN	235
6.	ALANKRITA	KALABURGI	258

13. Open mydocument2 where you have stored 15 citiesin dictionary order. Delete cities at position number 3 and 7. Undo your deletion and delete cities at position number 5 and 8.
14. Open mydocumentl. Find all the occurrences of the word 'the' and replace it with 'e' if it is not in the beginning of the sentence.
15. Open mydocument3 and insert a character 0 in front of all the cities except Bhopal. Insert the character @ in front of Bhopal.
16. Find out the number of words for the third paragraph.
17. Type your own address and store it in the table of Auto Text. Use it in any other document.
18. Create the table as shown below by merging cells? Write the steps.



20. Create a table showing results of randomly selected 5 students of standard 9 as shown in the following table:

S.No.	R.No.	Hindi	English	Maths	Science	SST
1	1	25	24	24	24	24
2	4	15	23	26	23	15
3	6	25	21	24	25	17
4	7	24	20	17	24	24
5	9	22	16	23	21	26
6	11	20	18	22	22	26

22. Perform the operations stated below.
    (a) Write steps to count total words in a document?
    (b) Is it possible to select the vertical block? If yes, then write the steps.
    (c) What are the steps to select a non-consecutive text in writer?
    (d) What is Special character in writer and how will you insert in a document?

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23. Perform the operations stated below.

(a) Change the width of column to best fit the content (Text should fit exactly)

(b) Move the table in the Centre position.

(c) Increase the row height.

(d) Make the data of all the cells vertically left aligned.

(e) Insert a column to the left of the last column and type the total of marks obtained by all the students.

(f) Split the second cell into two cells horizontally and type subject name and roll number in upper and lower cells.

(g) Insert a column to the left column inserted and move the content of the last column to the newly inserted column.

(h) Type the average marks in the last column.

24. Create the table given below use cell merge where required:

State : Madhya Pradesh				
Crop	**Wheat**	**Pulse**	**Rice**	**Average**
East	504	240	274	339.33
West	547	455	108	370
North	444	208	206	286
South	247	647	648	514

25. The time table prepared for Class IX using a wordprocessor as shown below:

Time Table: Class IX – D

Class Teacher : ABC								
Mon	**Hindi**	**Maths**	**Maths**	**Eng**	**SSC**	**Science**	**SUPW**	**SUPW**
Tue	Science	Science	SSC	Eng	Maths	Maths	Hindi	SSC
Wed	SSC	Maths	Science	Eng	Sc.(Pr.)	Sc.(Pr.)	Sc.(Pr)	Games
Thu	IT	IT	Maths	Eng	Sc.	S. Sc.	SSC	Games
Fri	Maths	Maths	Science	Eng	SSC	Hindi	Maths	CTP

The class teacher recommended some changes in the time table to that should looks as follows:

Class Teacher : ABC									
	1	**2**	**3**	**4**		**5**	**6**	**7**	**8**
Mon	Hindi	Maths		Eng.	**B R E A K**	SSC	Science	SUPW	SUPW
Teu	Science		SSC	Eng.		Maths	Maths	Hindi	SSC
Wed	SSC	Maths	Science	Eng.		Sc.(Pr.)	Sc.(Pr.)		Games
Thu	IT		Maths	Eng.		Sc.	SSC		Games
Fri	Maths		Science	Eng.		SSC	Hindi	Maths	CPT
Sat	Meditation		Activity			House Meeting		Bal Sabha	

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Name the word processing features that should be used to make the changes. The changes recommended are listed below:

1. The headline should be centre aligned
2. The Class Teacher's name should span along all the columns in the first row.
3. Add another row after the first row to indicate period number.
4. The day names should be in italics bold.
5. At all the places in the table where a subject occurs twice for consecutive columns, it should be displayed only once spread over the two columns.
6. There should be a column after 4th period to accommodate 'BREAK'.
7. There should be a row for Saturday.
8. Period numbers and 'BREAK' should be in Bold.
9. Make border tick in size of BREAK.
10. The table should be centre aligned.

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Electronic Spreadsheet

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Introduction

In our daily life or at workplace we have to perform various calculations. Various methods are used depending on the nature of calculations. We use our fingers or mental calculations to perform simple calculations and use a calculator for longer calculations. In science and engineering, scientific calculators are used to perform complex calculations. Spreadsheet application is a tool which is used to perform all kinds of calculations easily and accurately.

In your childhood, you might have used a special notebook with small cells marked with rows and columns to practice mathematics. We have also learned the multiplication table. Spreadsheet is a long sheet of rows and columns on the computer screen to do data analysis and calculation. In other words, a spreadsheet is a grid which interactively manages and organises data in rows and columns. It is also called as Electronic Spreadsheet. It is used for managing financial and accounting documents, creating data reports, generating invoices, data analysis from scientific and statistical researches, and for doing a variety of calculations on data.

A spreadsheet software can also store, manipulate and create graphical representations of data.

User can enter data into a spreadsheet, do the formatting, calculate and analyse the data for decision making. Besides user's data, spreadsheet packages also provide built-in formulae and functions for common mathematical, financial, statistical, and logical operations in a very sophisticated manner. Spreadsheet packages are widely used for data analysis and accounting applications. Because of these abilities the spreadsheet packages are used as a universal programme for structured data preparation and processing.

As spreadsheets became larger, they became difficult to manage. To handle the increasing size of the spreadsheet, the concept of a workbook was identified. LibreOffice Calc is used to perform the following activities accurately and efficiently.

- Tabulation of data
- Simple mathematical calculations
- Complex calculations using formula and functions
- Arranging data in ascending and descending order (sorting)
- Filtering the required data
- Checking the validity of data
- Protecting the data using passwords
- Saving for future use

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Spreadsheet Softwares

- Microsoft Excel
- LibreOffice Calc
- OpenOfficeCalc
- Apple Inc. Numbers

Getting Started with Libreoffice Calc

There are various types of spreadsheet applications developed by various software corporation. LibreOffice Calc is the spreadsheet application of LibreOffice suite.

Starting Libre Office Calc

When installing the operating system Linux (Ubuntu), the LibreOffice gets installed by default along with the icons for each component of LibreOffice (Writer, Calc, Impress, etc.). These icons are then placed on the launcher. In Windows, you need to download LibreOffice from its official website and install it on your computer.

(a) To start the LibreOffice Calc in Windows

- Find the shortcut of LibreOffice on ***Start menu*** or on the desktop. ***Double click*** the shortcut to open LibreOffice.

  Or,

- Click the window menu, select LibreOffice application, then click LibreOffice Calc (Figure 4.1). The Calc spreadsheet window will open.

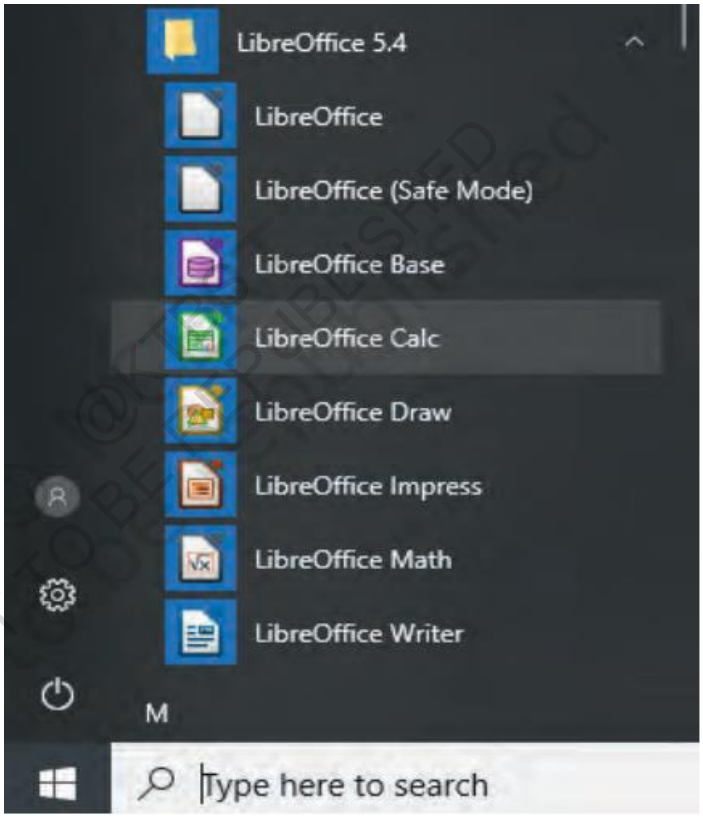


Fig. 4.1: Starting LibreOffice Calc in Windows

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(b) To start LibreOffice Calc in Linux

Find the Calc icon on application launcher or search it by clicking on "Show Applications" as shown in Figure 4.2.



Fig. 4.2: Starting LibreOffice Calc in Ubuntu Linux

Parts of LibreOffice Calc

Figure 4.3 shows the parts of LibreOffice Calc.

A brief explanation about the parts is given below.

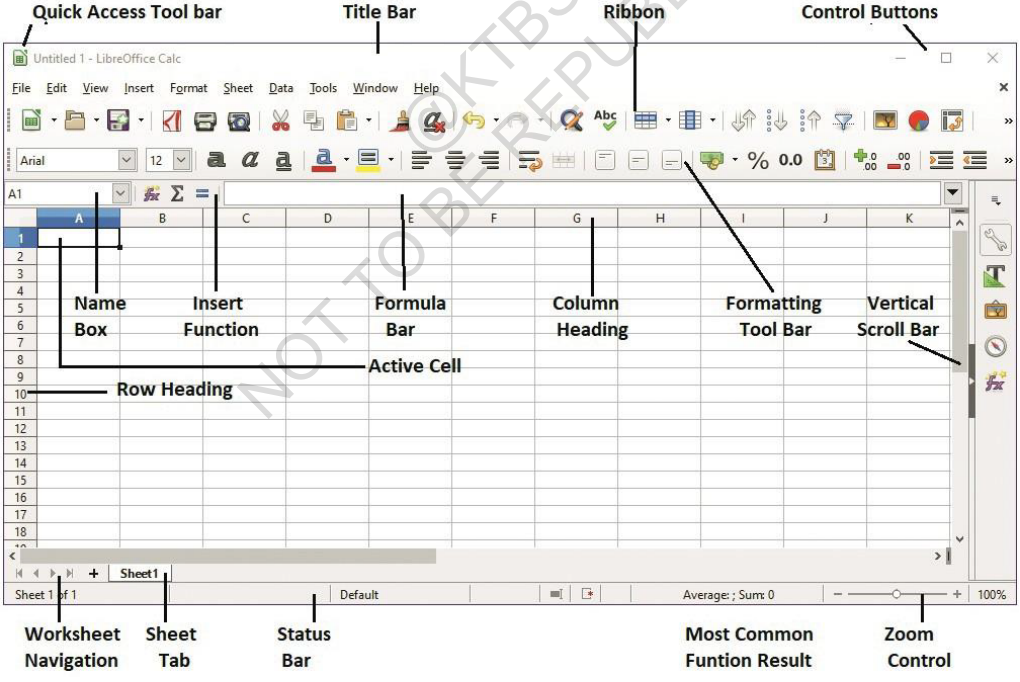


Fig. 4.3: User Interface Showing the Parts of LibreOffice Calc

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(a) Title bar: The Title bar, located at the top, shows the name of the current spreadsheet. When the spreadsheet is newly created, its name is Untitled X, where X is a number. The first created spreadsheet takes the name as Untitled 1, second is Untitled 2 and so on.

(b) Menu bar: Menu bar is located just below the Title bar. It contains the menus with commands for various tasks. Each menu item has a submenu called pull-down menu. The various menu items are briefly explained below.

(i) File: contains commands applied to entire document — *Open, Save, Wizards, Export as PDF, Print, Digital Signatures and so on*.

(ii) Edit: contains editing commands — *Undo, Cut, Copy, Paste, Select, Find & Replace and so on*.

(iii) View: contains commands for modifying the user interface — *Toolbars, Column & Row Headers, Full Screen, Zoom and so on*.

(iv) Insert: contains commands for inserting elements into a spreadsheet — *Image, Media, Chart, Object, Shapes, Date, Time, Headers and Footers*.

(v) Format: contains commands for modifying the layout of a spreadsheet — *Cells, Rows, Columns, Page, Styles and Formatting, Alignment and so on*.

(vi) Styles: for managing styles.

(vii) Sheet: contains commands to insert and delete cell, rows and columns, insert sheet, rename sheet, fill cell, etc.

(viii) Data: contains commands for manipulating data — *Define range, sort, and so on*.

(ix) Tools: contains various functions to check and customise spreadsheet — *Spelling, Language, Gallery, Macros and so on*.

(x) Window: contains commands to display window — *New Window, Split and so on*.

(xi) Help: contains links to the help system included in the software and other miscellaneous functions — *Help, License Information, Check for Updates* and *so on*.

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(c) Toolbars: The Calc opens with the Standard and Formatting toolbars at the top of the workspace by default. These toolbar provide a wide range of common commands and functions. Placing the mouse cursor over any icon displays a small box called a tooltip. It gives a brief explanation of the icon function.

(i) Standard toolbar: The standard toolbar shows the icons for most common operations, such as editing, arranging, filtering, etc., used while working on the spreadsheet.

(ii) Formatting toolbar: Formatting toolbar has the most common operation related to formatting datasheet. It includes buttons for font selection, size of text, alignment, cell value formatting and indentation, etc.

(iii) Formula toolbar: It allows entering and editing a formula in the cell. Formula bar consists of the following:

- **Name box:** shows the cell reference, for example A1.
- **Functions wizard:** search the function from the list of available functions.
- **Sum:** used to total the numbers in the cells above the selected cell. The sum is placed in the selected cell.
- **Function:** clicking on the Function icon inserts an equals (=) sign into the selected cell and the Input line allow formula to be entered.
- **Input line:** displays the contents of the selected cell (data, formula, or function) and allows editing the cell contents. To edit inside the **Input line** area, click in the area, then type the changes. To edit within the current cell, just double-click in the cell.

(d) Worksheet: The worksheet in Calc is also referred to as spreadsheet. The spreadsheet can have many sheets. Each sheet can have many individual cells arranged in rows and columns. The sheet tab shows its default name as Sheet1, Sheet2, Sheet3, … (Fig 4.4)

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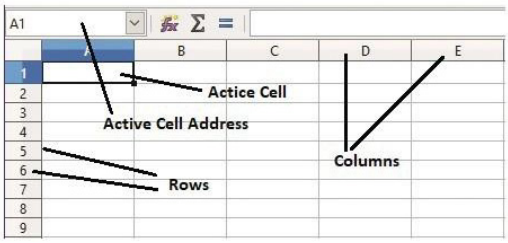


Fig. 4.4: Rows, Columns and Active Cell

(e) Rows and columns: The sheet is divided into vertical columns and horizontal rows. Each sheet can have a maximum of **1,048,576 (2^{20})** rows and **1024 (2^{10})** columns. The rows are numbered as 1,2,3,4,... and columns are numbered as *A, B, C, D, …., Z, AA, AB, AC, …., AZ, BA to BZ, CA,…., AMJ.*

(f) Cell and cell address: The intersection of a row and column is called a cell. It is the basic element of a spreadsheet. It holds data, such as text, numbers, formulae and so on. A cell address is denoted by its column (letter) followed by row number. For example, D4, E9, Z89 are the valid example of cell address.

(i) Active cell: In a spreadsheet, cell is the place where we enter the data. Before entering any data in the cell, it has to be first selected by placing a cursor on it. When we position the mouse cursor on a cell, it gets selected, and is ready to take data from the user. This selected cell is called as active cell and the cell is said to be activated. It is always highlighted, with a thick border. The address of the active cell is displayed in the name box. The Fig 4.4(b) shows, B3 as the active cell in the worksheet.

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Let's Practice 1

Write the cell address of the following

- First row and first column .....
- First column and last row .....
- First row and last column .....
- Last column first row .....
- Seventh column and tenth row .....
- Tenth column and nineteenth row .....
- The cell address LK89 is situated in row number .... and column letter .....

(ii) Active cell in a worksheet: To enter data in the cell, it should be selected first. Active cell in a worksheet can be moved and selected by a key or a combination of keys (Table 4).

Table 4 : Key / Keys and it's Result

Key or Key Combination	Result of Key or Combination
Arrow keys (←↑→↓)	Move a single cell in arrow direction
Ctrl + Arrow Keys	Moves the cell to the end of the data range in a particular direction
Home	Moves to column A along the row where the active cell is
Ctrl + Home	Moves the cell to A1 position
Ctrl + End	Moves to bottom right cell of the data range
Page Up	Moves the worksheet one screen up
Page Down	Moves the worksheet one screen down

(iii) Range of cells: A block of adjacent cells in a worksheet which is highlighted or selected is called a range of cells. Observe the worksheets in Figures 4.5 and 4.6.

- The ***column range*** is the number of cells spread across the column. The cell address is represented by single column letter and multiple row number in a sequence. In this example the column letter C is constant with rows varying from 2 to 7. The range of cells starts at C2 and ends at C7 and it is represented by C2:C7. This range of cells consists of the cells, namely C2, C3, C4, C5, C6, and C7.

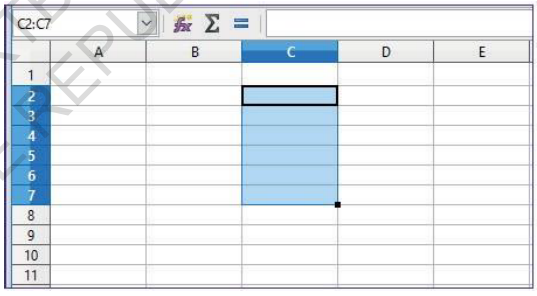


Fig. 4.5: Column Range

- The ***row range*** is the number of cells spread across the row. The cell address is represented by single row number with columns varying from B to D. The range of cells starts in B3 and ends in D3. This range of cells consists of the cells, namely B3, C3, D3, and it is represented by B3:D3 as shown in Fig 4.6.

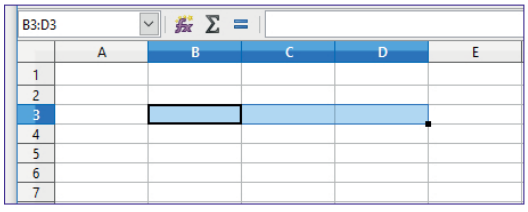


Fig. 4.6: Row Range

- The ***row and column range*** is the number of cells spread across the row and columns. This

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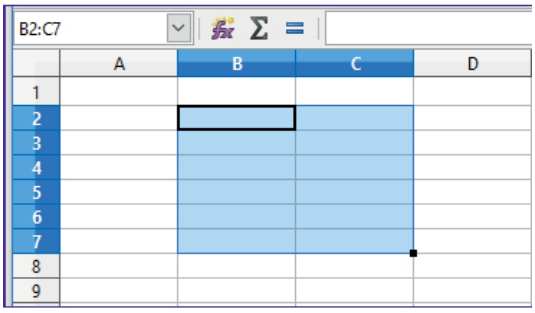
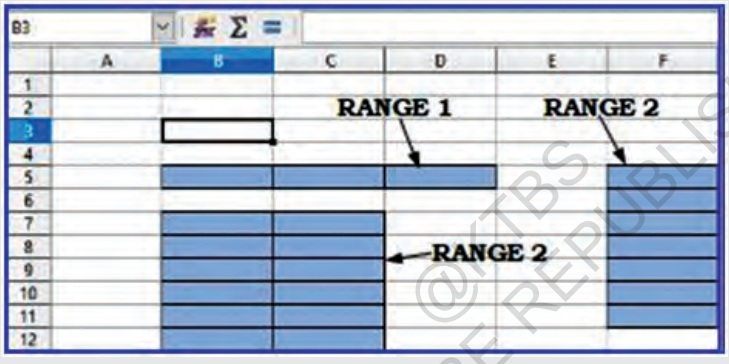


Fig. 4.7: Row & Column Range

range is a matrix with number of rows and number of columns. In this example, the range starts at cell B2 and ends cell C7. This range of cells consists of the cells from B2 to B7 and cells from C2 toC7. The range is represented by B2:C7 as shown in Figure 4.7.

Note: The control key is used to select more than one 'range of cells' in a worksheet. The control key is marked as 'Ctrl' on the keyboard.



Let's Practice 2

Answer the questions based on the following worksheet.

1. What is the address of the first cell represented by Range1?
2. What is the address of the last cell represented by Range1?
3. Write the cell range represented by Range 1.
4. Write the cell range represented by Range 2.
5. What is the name of the cell range along a row?
6. What is the name of the cell range along a column?
7. Write the cell range represented by Range 3.
8. Give the number of cells in the cell range represented by Range 3.

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Entering data

To enter any data in a worksheet, practically in the cell, it is required to select the cell. Cell can be selected by positioning the pointer in a cell. The data to be entered can be the label, value or formula.

(a) Label: Label is the any text entered by using a keyboard. It may be combination of letters, numbers, and special symbols.

By default the labels are left aligned as shown in Figure 4.8.

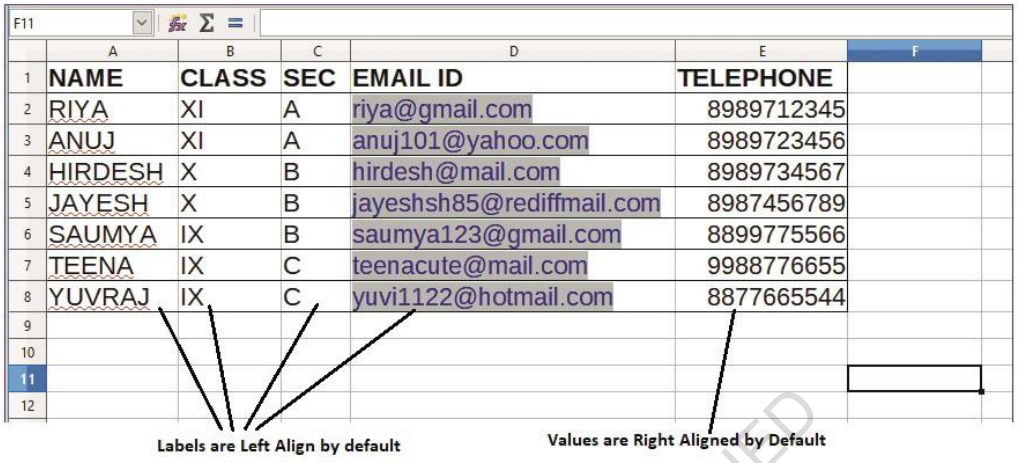


Fig. 4.8: Labels are Left Aligned and Values are Right Aligned by Default

(b) Values: The numerical data consisting of only numbers are called values. By default values are right aligned. There are various forms of values, such as integers, decimals and so on as shown in Figure 4.9.

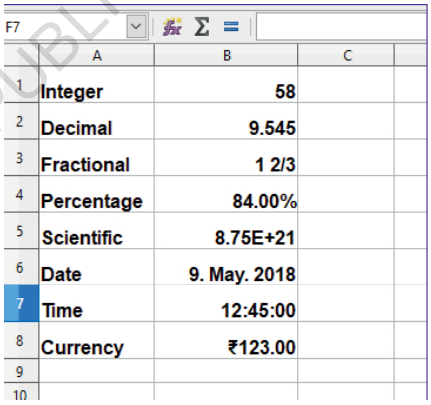


Fig. 4.9: Values are Right A ligned

(c) Formulae: Any expressions that begins with an equals '=' is treated as formula. In the expression, the '=' followed by values, cell address and functions are called as formula. When a formula is entered in a cell in a worksheet the value of the equation is displayed in the cell and the formula is shown in the formula bar.

Note: The values do not display the preceding zero. If any value (e.g., telephone numbers), preceded by 0, then the first letter '0' is not displayed, when the data is value. To show the preceding '0', the data type has to be specified as 'Text'.

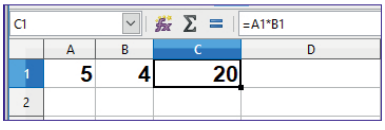


Fig.4.10 Expressions as formula

Example: Getting the total value of cells A1 and B1 into cell C1 see Figure 4.10.

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Mathematical operators used in formulae

Spreadsheet Software has the most powerful features to calculate numerical data using formulae. As we use a calculator for calculation, Calc can add, subtract, divide, multiply and much more. LibreOffice Calc uses standard operators for formulae, such as a plus(+), minus(-), multiplication (*), a division (/) for arithmetic operation (Table 4a).

Note: The order of evaluation can be changed by using brackets. (The expressions within the brackets are evaluated first).

Table 4.1: Operators and Precedence

Mathematical Operators		Operator precedence	
+	addition	First	( )
-	subtraction	Second	^
*	multiplication	Third	/, *
/	division	Fourth	+ , -
^	exponentiation (power)		

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Simple calculations using values and operators

Table 4.1 shows a few formulae written using values and operators. More than one mathematical operator can be included in the formula. Let us learn how to evaluate the operators in order. See the Tables 4.1 and 4.2.

Table 4.1(a): Writing Simple Formula

Operator	Formula	Result
Addition (+)	23 + 6	29
Subtraction	0 – 6	- 6
Multiplication (*)	9*6	54
Division (/)	88/8	11
Exponentiation (^)	2 ^ 5	32

Table 4.2: Use of Brackets in Simple Equations

Formula	Evaluation	Result
= 4+5*3	= 4+15	19
= (4+5)*3	= 9*3	27
= 5*4^2	= 5*16	80
= (5*4)^2	= 20^2	400
= (4/2)^2	= 2^2	4
= 16/(4^2)	= 16/16	1

Let's Practice 3

Evaluate the following equations using operator precedence and then test the result in the spreadsheet

1. 8-4/2
2. 5*5+8
3. 3+5*4
4. 2^5+8
5. 3+2^2
6. 5+6*2^2
7. 8/4*4
8. -4/2+2
9. 1+2^2-2
10. 4*3/2

Formulae with cell addresses and operators

The main advantage of entering formula with cell addresses and operators, works just like a variable. When the values of the cells concerned change, the results obtained by the formula also get updated accordingly. Suppose to add the values in two cells A1 and A2 and get the addition in cell A3. If we position the cursor in cell A3 and simply add the values as =5+8, then we will get the correct addition in cell A3. But if we change the values in cell A1 to 6 and A2 to 7, then again we have to get the addition in the cell A3 by writing =6+7. But if we write the general formula in cell A3 as =A1+A2. Then we need not to do the addition in cell A3. We will get the respective addition with the change in values in cell A1 and A2.

Example: For calculating the volume of a box with given length, width and height in cells A2, B2 and C2, respectively, see the formula to derive the volume entered in cell D2 (see Figure 4.12).

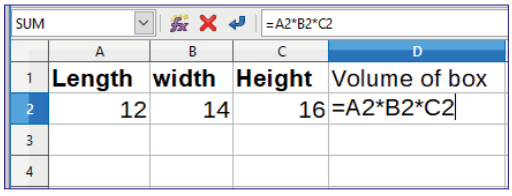


Figure 4.12: Volume of Box

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Let's Practice 4

Create a worksheet based on the Figure 4.12. Observe the changes in values obtained from the formula in column D when you enter different values in cells A2, B2 and C2.

Note: Formula starts with '=' sign and nothing should be written on the left side of the equal sign ('='). If you forgot to put the '=' before the formula, it will be treated

as a label. If you write the formula B1=A2+A3 in cell B2, then it will be taken as a label and calculations will not be performed (Fig 4.13). When you enter formula with the equal sign ('='), a formula bar gets activated automatically. This helps in knowing whether the entered text is a formula or not (Figure 4.14).

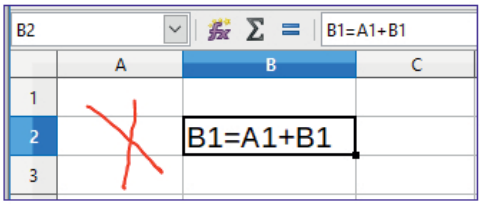


Fig. 4.13: Incorrect Way of Formula

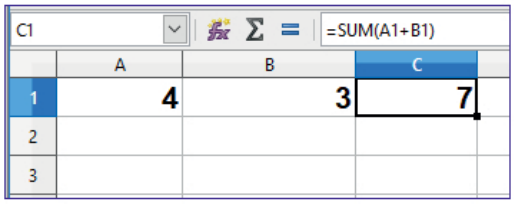


Fig. 4.14: Correct Way of Formula

Example: Let us create a simple spreadsheet to prepare a shopping bill of stationary of the following items.

Item	Quantity	Unit Price
Register	3	40
Single Rule Copy	12	25
Notebook	6	30
Pencil Box	1	50
Color Box	1	120
Notebook Cover	20	3

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The steps to create the spreadsheet are as mentioned below:

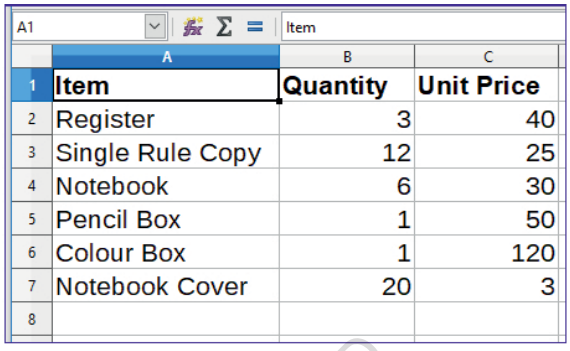
Step 1: Open the LibreOfficeCalc by using the standard process.

Step 2: Observe that the Calc has created the worksheets automatically. Give the specific name to the worksheet say 'Stationary Bill'. To do this

- Select the menu **Sheet → Rename Sheet**.
- Give appropriate name, say **'Stationery Bill'** to the worksheet and click **OK**. Notice the change in the worksheet name.

Step 3: Enter the data given in the above table in the worksheet. To enter the above data in the worksheet **'Stationery Bill'** do the following:

- Click (click means left click) on the cell A1. Enter the word "Item" and press the enter key.
- Click on the cell B1. Enter the word "Quantity" and press the enter key.
- Click on the cell C1. Enter the word "Unit Price" and press the enter key.



	A	B	C
1	Item	Quantity	Unit Price
2	Register	3	40
3	Single Rule Copy	12	25
4	Notebook	6	30
5	Pencil Box	1	50
6	Colour Box	1	120
7	Notebook Cover	20	3
8			

Fig. 4.15: Data Entry of Text, Number and Formula

You may drag the column to resize it. It may be required to resize a column while entering name of items. To resize, put the mouse at the edge of the column, and drag it to the required length. Select the heading cells and make them bold using formatting toolbar. Now enter the data so that the worksheet appears as shown in Figure 4.15.

Step 4: Save the worksheet with appropriate name so that the data may not be lost. To save the worksheet, click on ***File → Save***. A Save dialog box will appear as shown in Figure 4.16. Select the location where you want to save the file. Enter the name of the file say, **'Stationery_ Bill'**, and Click on the Save button. The spreadsheet file will get saved by default in ODF format with the name ***Stationery_Bill.ods***. Remember the name and location of file, to retrieve it in future.

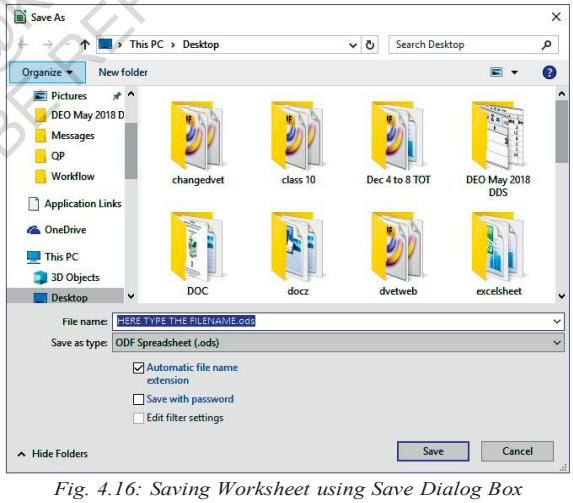


Fig. 4.16: Saving Worksheet using Save Dialog Box

Now calculate the total cost of each item in this worksheet. Enter the heading as we will insert a new

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column right to the 'Unit Price' and give the heading as 'Total Cost' in the cell D1. Here we do not need to insert the new column. Since we are editing the spreadsheet in the sequential manner, the next column is available for data entry. However, if you want to enter the data in the previous column then you have to insert the column before the column C. So that data in column C shifts to column D and an empty column C is created.

To insert the column before any column, position the cursor on any cell of the column before which you want to insert the column and select
Sheet → Insert Columns → Columns → Columns left (Figure 4.17)
Similarly, to insert the column to the right select ***Sheet → Insert Columns → Columns → Columnsright***

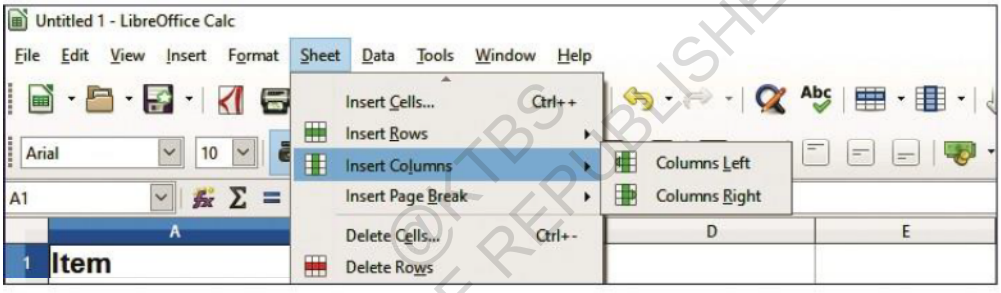
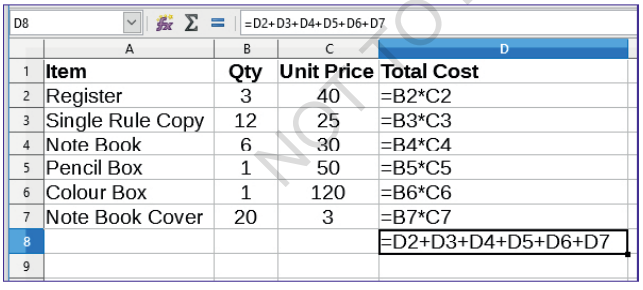


Fig. 4.17: Inserting Column in the spreadsheet



	A	B	C	D
1	**Item**	**Qty**	**Unit Price**	**Total Cost**
2	Register	3	40	=B2*C2
3	Single Rule Copy	12	25	=B3*C3
4	Note Book	6	30	=B4*C4
5	Pencil Box	1	50	=B5*C5
6	Colour Box	1	120	=B6*C6
7	Note Book Cover	20	3	=B7*C7
8				=D2+D3+D4+D5+D6+D7
9				

Fig. 4.18: Inserting Formula in the Spreadsheet

Now to calculate the total cost in column D for each item, move the cursor on the cell D2, and enter the formula '=B2*C2' to calculate the total cost for 'Register'. We need to apply the same formula for the next items. So instead of writing the formula again and again in the next cell D3 to D7, click on the cell D2, hold and drag it down to D7. The formulas to calculate the total cost will get copied. Observe that the address of the cell gets changed automatically as shown in Figure 4.18. Now enter the

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formula in Cell D8 as '=D2+D3+D4+D5+D6+D7' to calculate the Total Cost of all items.

Let's Practice 5

Prepare the worksheet as shown in Figure 4.18. Change the values in cells B1 and B2. Observe the results obtained from the formulae in cells D2, D3, D4, D5, D7 and D8.

Example: Calculating the area and volume of a cube when the length of one side is given (Figure 4.19).

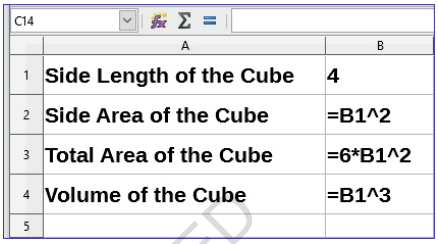


Fig. 4.19: Finding Area and Volume of a Cube

Let's Practice 6

Create a worksheet as shown in Figure 4.17. Change the values in cell B1 and observe the results obtained from the formulae in the cells B2, B3 and B4.

Note: The results obtained from a formula (based on cell addresses) always get updated automatically when the values of these cells mentioned in the formula change.

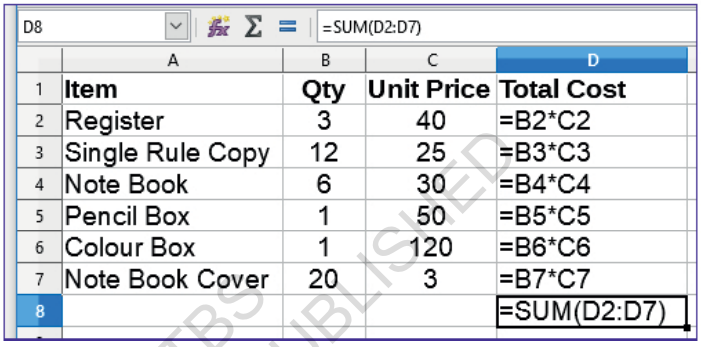
Formula	Result
=A1*B1-D2	
=D1-C2/A2	
=B3^C3-A3	
=A1*C1/C3	
=D2*C4*E1	
=A3/B3+A2*D1	
=A1+(B2*C2)-B3+C2/B2	
=B2-B3+B1*(D1+D2^B1)	
=A2^B3-C2+A3*(B3+C1)	
=A3/C3*(D2*D1)	
=D3/C3/B3*A3+B2	
=(D3/(A1+B2))^C2	

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Use of functions to do calculations

In the example of Stationery Bill, to calculate the total cost of all the items to obtain the bill amount, we need to add the amount of each item. We may add each cell by using the formula. Position the cursor on the cell D8, and enter the formula '=D2+D3+D4+D5+D6+D6+D7' and get the total in cell D8. But this may not be practically possible if

there are hundreds of items and also there are more chances of error. When there is a large quantity of data it becomes difficult and complex task to write formula using only the cell addresses. In such situations, LibreOffice Calc provides built-in functions. SUM is the function to get the sum of range of cells. So we can use the function, 'Sum(D2:D7)' in D8 cell (Figure 4.20) to obtain the total cost of all the items. In the function we need to include only the cell range (starting and last cell address).



	A	B	C	D
1	Item	Qty	Unit Price	Total Cost
2	Register	3	40	=B2*C2
3	Single Rule Copy	12	25	=B3*C3
4	Note Book	6	30	=B4*C4
5	Pencil Box	1	50	=B5*C5
6	Colour Box	1	120	=B6*C6
7	Note Book Cover	20	3	=B7*C7
8				=SUM(D2:D7)

Fig 4.20: Using Functions in the Spreadsheet

Think on, which of the following methods will be more appropriate to add cell data.

= D2+D3+D4+D5+D6+D7 – Method 1
= SUM (D2:D7) – Method 2

The spreadsheet applications contain different functions to meet the requirements of different fields. The commonly used functions are given in the Table 4.4.

Table 4.4: Commonly used Basic Functions in Calc

Function	Syntax	Use
SUM	=SUM(Number1,Number2,.....)	Adds the values contained in a range of cells.
AVERAGE	=AVERAGE(Number1,Number2,.....)	Finds out the average of the values contained in a range of cell
MAX	=MAX(Number1,Number2,.....)	Finds out the largest value contained in a range of cells.
MIN	=MIN(Number1,Number2,. .....)	Finds out the smallest value contained in a range of cells.
COUNT	=COUNT(Number1,Number2,. .....)	Counts the number of cells within a range of cells.

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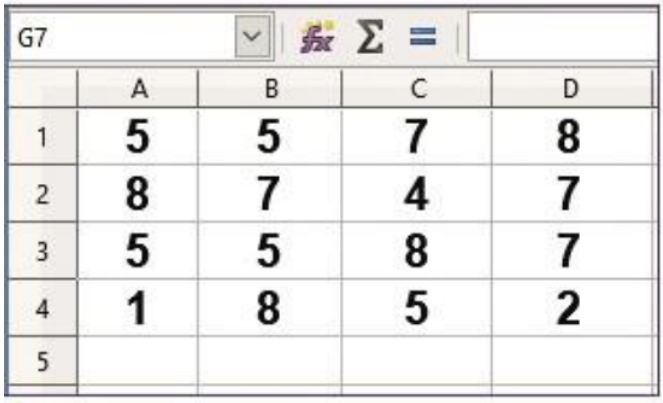


Fig. 4.21: Sample Data to Work on Functions

Let us identify the various ways in which a function can be used. Based on the sample data in Figure 4.21, the results of the functions are evaluated from Table 4.5 to Table 4.9. Verify the result.

Table 4.5: SUM Function

Formula	Meaning	Result
=SUM (A1,B1,C1)	The sum of cells A1,B1 and C1	17
=SUM(A1:C1)	The sum of cells in the range of cells from A1 to C1	17
=SUM(A1:C1,B2)	The sum of cells in the range of cells from A1 to C1 and B2	24
=SUM(B1:C2)	The sum of cells in the range of cells from B1 to C2	23
=SUM(A1:A3,C1:C3)	The sum of cells in the range of cells from A1 to A3 and C1 to C3	37

Table 4.6 : AVERAGE Function

Formula	Meaning	Result
=AVERAGE (A1,B1,C1)	The average of cells A1, B1 and C1	5.66
=AVERAGE (A1:C1)	The average of cells in the range of cells from A1 to C1	5.66
=AVERAGE (A1:C1,B2)	The average of cells in the range of cells from A1 to C1 and B2	6
=AVERAGE (B1:C2)	The average of cells in the range of cells from B1 to C2	5.75
=AVERAGE (A1:A3,C1:C3)	The average of cells in the range of cells from A1 to A3 and C1to C3	6.16

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Note: When the average is calculated, a decimal number with several decimal places may be used. You need the required decimal places in the relevant cell range.

Table 4.7: MAX Function

Formula	Details	Result
=MAX(A1,B2,C1)	Finds out the largest value among cells A1,B2 and C1	7
=MAX(A2:C2,B3)	Finds out the largest value among the range of cells from A2 to C2 and the cell B3	8
=MAX(A1:C1)	Finds out the largest value among the range of cells from A1 to C1	7
=MAX(A1,B1:C2)	Finds out the largest value among the range of cells from A1 to B1 and the cell C2	7

Table 4.8: MIN Function

Formula	Details	Result
=MIN(A1,B2,C1)	Finds out the smallest value among cells A1, B2 and C1	5
=MIN(A2:C2,B3)	Finds out the smallest value among the range of cells from A2 to C2 and the cell B3	4
=MIN(A1:C1)	Finds out the smallest value among the range of cells from A1 to C1	5
=MIN(A1,B1:C2)	Finds out the smallest value among the range of cells from B1 to C2 and the cell A1	4

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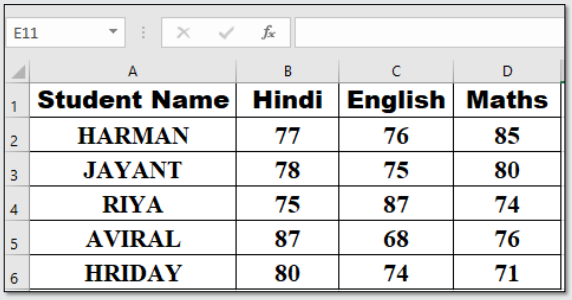
Table 4.9: Count Function

Formula	Details	Result
=COUNT(A1,B1)	Counts the number of cells that contain numbers among cells A1, B1	2
=COUNT(A1:C1)	Counts the number of cells that contain numbers in the range of cells from A1 to C1	3
=COUNT(A1:A4)	Counts the number of cells that contain numbers in the range of cells from A1 to A4	4
=COUNT(A1:C1,B2)	Counts the number of cells that contain numbers in the range of cells from A1 to C1 and B2	4
=COUNT(B1:C3)	Counts the number of cells that contain numbers in the range of cells from B1 to C3	6
=COUNT(A1:A3,C1:C3)	Counts the number of cells that contain numbers in the range of cells from A1 to A3 and the range of cells from C1 to C3	6

Let's Practice 7

Using functions

The Figure 4.22 shows marks scored by students in three different subjects.



	A	B	C	D
1	**Student Name**	**Hindi**	**English**	**Maths**
2	HARMAN	77	76	85
3	JAYANT	78	75	80
4	RIYA	75	87	74
5	AVIRAL	87	68	76
6	HRIDAY	80	74	71

Fig. 4.22: Marks scored by students in different subjects

Provide answers for the following queries using functions.

1. Write the formula in E2 to find the total marks scored by HARMAN.
2. Copy the formula entered in E2 for other students.
3. Write the formula in F2 to find the average marks scored by HARMAN?
4. Copy the formula entered in F2 for other students.
5. Write the formula in cell B7 to find the highest score in Hindi.
6. How will you find the highest score in English and Maths?
7. Write the formula in cell B8 to find the total number of students who appeared in Hindi?
8. Write the formula in cell B9 to find the lowest score in Hindi.
9. How will you find the lowest score in English and Maths?
10. How will you find the highest score in Hindi, English and Maths?

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Formatting the worksheet

The cell holds any type of data in the spreadsheet. The cell data can be formatted using formatting toolbar or cell formatting window. It is also possible to format the cell using Format cells dialog box as shown in the Figure 4.23. The Format cells dialog box can be opened using ***Format→cells*** using the Format menu, or from context menu opened bys right clicking the cell.The various options in the ***Format→cells*** dialog is briefly explained in the Table 4.10.

Table 4.10: Formatting tool

S.no.	Tool	Details
1.	Font	Apply different font types on a worksheet
2.	Font Size	Apply different font sizes on a worksheet
3.	Bold	Make the selected text bold
4.	Italic	Italicize the selected text
5.	Underline	Underline the selected text
6.	Left Alignment	Align text in a cell to the left
7.	Center Alignment	Align text in a cell to the center
8.	Right Alignment	Align text in a cell to the right
9.	Increase decimal places	Show more precise value by showing more decimal places
10.	Decreased decimal places	Show less precise decimal places

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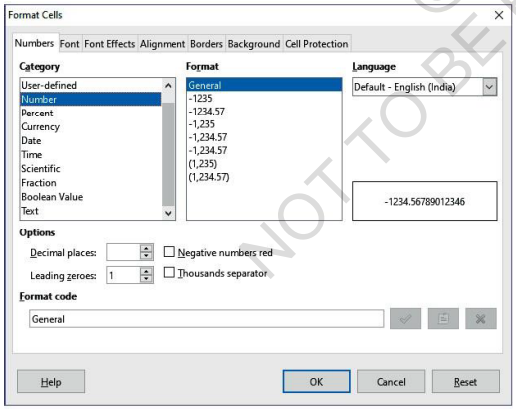


Fig. 4.23: Format Cells Dialog Box

Use of dialog boxes to format values

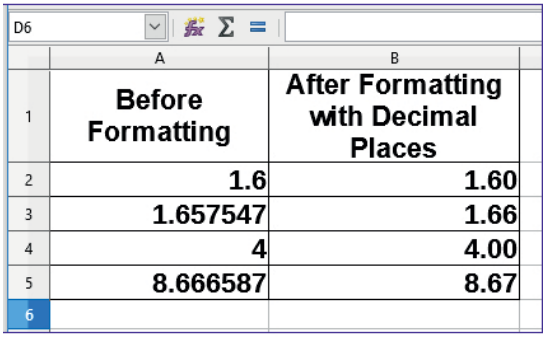
The format cells dialog box in the toolbar can be used to find more about formatting a cell or range of cells. You can open this ***Format Cell*** dialog box by pressing the shortcut key ***Ctrl+1*** as shown in Figure (4.23).

Formatting a range of cells with decimal places

The division of different numbers may result in varied decimal places in the quotient. In such cases it is necessary to format the number to a fixed number of decimal places.

Following are the steps to format a cell to the required number of decimal places (Fig 4.24):

- Select the range of cells.
- Open the 'format cells dialog' box
- Click the 'Number' tab
- Select the 'Number'
- Change the decimal places as required
- Click 'OK'

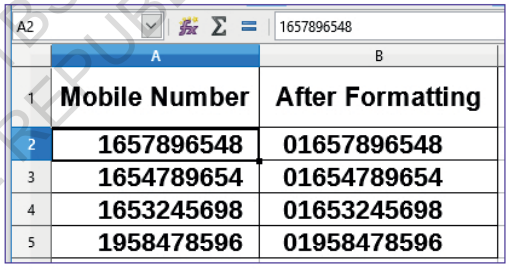


	A	B
1	Before Formatting	After Formatting with Decimal Places
2	1.6	1.60
3	1.657547	1.66
4	4	4.00
5	8.666587	8.67
6		

Fig. 4.24: Formatted to Two Decimal Places

Formatting a range of cells to be seen as labels

In a telephone number, the STD code starts with 0. But while entering the telephone number with the STD code the first digit zero ('0'), disappears from the telephone number. This is because the telephone number is stored as a numeric value, and the numeric value does not have a preceding zero. If you make these numeric values as text, then the complete telephone number will appear with a preceding zero. So format the whole range of cells consisting of telephone number as 'text'. Follow the steps below in order to format a range of cells as text as shown in Figure 4.25.



	A	B
1	Mobile Number	After Formatting
2	1657896548	01657896548
3	1654789654	01654789654
4	1653245698	01653245698
5	1958478596	01958478596

Figure 4.25: Formatting a Range of Cells as Labels

- Select the range of cells
- Open the 'format cells dialog' box
- Click the Number tab
- Select Text
- Click 'OK'
- Enter numbers

Formatting a cell range as scientific

In a spreadsheet, by default the date format is in American Format; (mm/dd/yyyy) (mm-month, dd-date, yyyy-year). The date 12/09/2024 means that it is the

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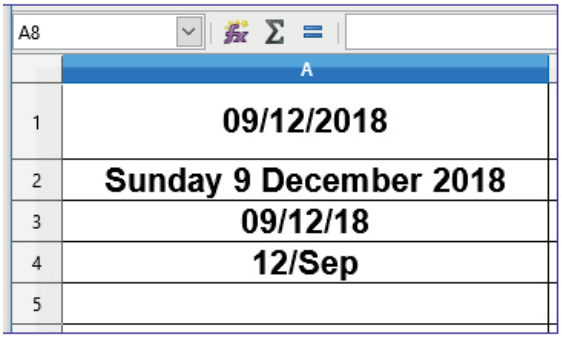


Figure 4.26: Various Date Formats

09th day of December 2024. In a spreadsheet application, the user can change this Date in many different formats (Figure 4.26). To do these follow the below steps.

- Select the range of cells.
- Open the 'Format cells dialog' box
- Click the 'Number' tab
- Select the 'Date' category
- Select the date format
- Click 'OK'

Formatting a range of cells to display times

Time is indicated in a computer as 10:35:53 AM. The common format of this is hh:mm:ss AM/PM (Figure 4.27). Here, hh means hours, mm means minutes and ss means seconds. Follow the steps below to format a range of cells to display the time.

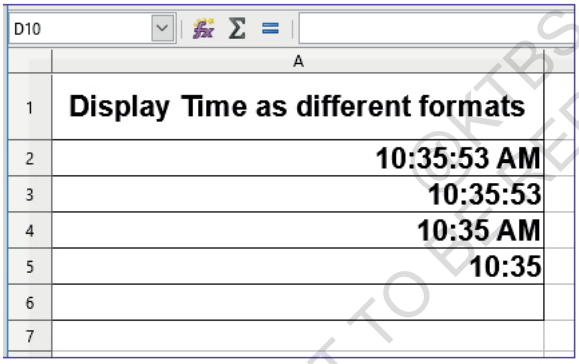


Fig. 4.27: Various Time Formats Cell Range

- Select the cell range
- Open the 'format cells dialog' box
- Click the 'Number' tab
- Select the 'Time' category
- Select category Time should be displayed
- Click 'Ok'

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Formatting alignment of a cell range

The labels and values can be aligned to the left, center or right of a cell range by using the alignment icons (Left, Center, Right) on the standard toolbar.

- Select the range of cells
- Open the 'format cells dialog' box
- Click the 'Alignment' tab
- Select left, right or center
- Click 'OK'

Create the worksheet as shown in Figure 4.28 using formatting tools and formulae.

- Center align row 1.
- Make row 1 and row 2 Bold.
- Italicise cells A3, A4, A5.
- Use function AVERAGE in cell E3 to calculate the average of Hindi (B3) English (C3) and Maths (D3).
- Copy this formula by dragging it from E3 to E6.
- Use function AVERAGE and write a formula in B7 to calculate the average of Class 9 (B3), Class 10 (B4), Class 11 (B5), Class 12 (B6) for the subject Hindi.
- Copy this formula by dragging it from B7 to D7 and use them to calculate the average for English and Maths.

	A	B	C	D	E
1	Usage of Books class wise				
2	Class	Hindi	English	Maths	Average
3	9	22	42	32	32.00
4	10	27	24	33	28.00
5	11	29	25	25	26.33
6	12	20	27	26	24.33
7	Average	24.5	29.5	29.0	

Fig. 4.28: Worksheet with Various Formats

Speeding up data entry

The most important ability of a spread sheet is to drag and drop the contents of one cell to another by using a mouse. Calc includes several other tools for automating input, especially of a repetitive task. They include the fill tool, selection lists, and the ability to input information into multiple sheets of the same document.

Using the fill handle

The Calc Fill Handle tool is used to fill the next cells till you drag it with the next predefined value. For example, if you want to fill the numbers in sequence of 1,2,3...., or days of the week as Monday, Tuesday, ..., or month name as Jan,Feb,. , enter the first two values, select them and drag to the next cells till you wish to continue the series in sequence.

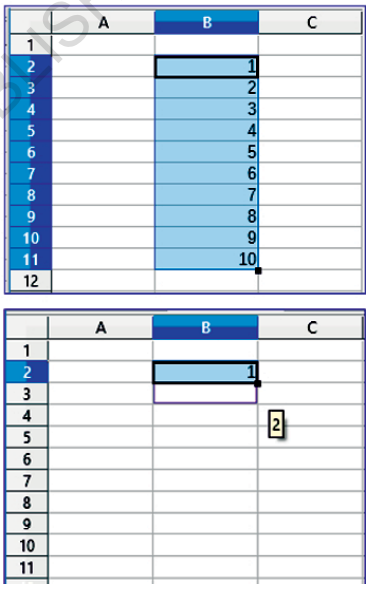


Figure 4.29: Fill Handle for Number Series

(a) For number series: Type the numbers1, 2 in two consecutive cells and select them using a mouse. Click on the right down corner of the selected cells, hold down the first button of mouse and drag downward till you want to continue as shown in Figure (4.29).

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Here you can get a series on different interval also by giving the difference between two consecutive cell values and drag them. For example, to draw odd number series type 1 in the first cell and 3 in the next cell and then drag them to fill odd number series.

(b) Copying a formula: If you wish to apply the same formula to number of cells in the rows or columns, you need not enter the formula again and again in each cell. A formula can be copied. It saves the time and efforts in the case of long and complex formula and reduces chances of errors.

(i) **Use of copy and paste commands for copying formulae**

Following are the steps to copy a formula using the copy-paste command

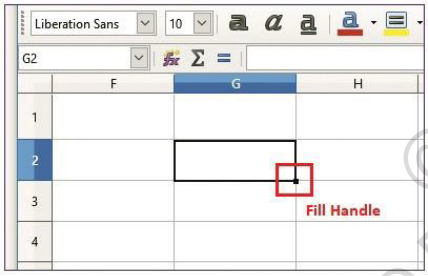


Fig. 4.30: Fill Handle

- Select the cell
- Copy the contents of the selected cell (***Ctrl+C***)
- Select the cell to which the formula is to be pasted
- Paste the contents in the selected cell (***Ctrl+V***)

(c) Fill handle of a cell: The small black square in the bottom-right corner of the selected cell or range is called a fill handle (see Figure 4.30).

(d) Uses of fill handle for copying formulae: Follow the steps below to copy formula using the fill handle.

- Select the cell which contains the formula
- Click the small black square in the bottom-right corner of the selected cell
- Drag the fill handle up to the required cell

Let's Practice 7

A. Copy the formula using Fill Handle

1. Create the worksheet as shown in Figure 4.30.

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- Click on Cell A2 and using Fill Handle, Drag it till Cell A15. You will get the list of all the Days' name.
- Click on Cell B2 and using Fill Handle, Drag it till Cell B15. You will get the list of all the Months' name.
- Select Cell C2 and C3 using a mouse. Now using Fill Handle in cell C3 drag it till Cell C15, you will get a list of Natural Numbers.
- Select Cell D2 and D3 using a mouse. Now using Fill Handle in cell D3 drag it till Cell D15, you will get a list of Even Numbers.
- Select Cell E2 and E3 using a mouse. Now using Fill Handle in cell E3 drag it till Cell D15, you will get a list of Odd Numbers.

After these five activities, you will get the sheet as shown in Figure 4.31.

	A	B	C	D	E
1	Day Name	Month Name	Natural Number	Even Number	Odd Number
2	Sunday	January	1	2	1
3			2	4	3
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Fig 4.30: Activity Sheet for Full Handle

	A	B	C	D	E
1	Day Name	Month Name	Natural Number	Even Number	Odd Number
2	Sunday	January	1	2	1
3	Monday	February	2	4	3
4	Tuesday	March	3	6	5
5	Wednesday	April	4	8	7
6	Thursday	May	5	10	9
7	Friday	June	6	12	11
8	Saturday	July	7	14	13
9	Sunday	August	8	16	15
10	Monday	September	9	18	17
11	Tuesday	October	10	20	19
12	Wednesday	November	11	22	21
13	Thursday	December	12	24	23
14	Friday	January	13	26	25
15	Saturday	February	14	28	27

Fig 4.31: Result of Fill Handle Activity

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2. Create a worksheet as shown in Fig 4.32 with all student names and marks.

- Type the formula in cell H2 as ***=SUM(C2:G2).*** You will get the total marks of Amit. Now drag the formula using Fill Handle in cell H2 to H11 to get the total of all marks.

- Type the formula in cell I2 as ***=AVERAGE(C2:G2).*** You will get the average marks of Amit. Now drag the formula using Fill Handle in cell I2 to I11 to get the total of all marks. After that you will your sheet as shown in Figure 4.33

-

	A	B	C	D	E	F	G	H	I
1	S.No.	Name	Hindi	English	Science	Maths	Biology	Total	Average
2	1	Amit	65	84	33	30	69		
3	2	Deepak	31	41	87	57	35		
4	3	Chetna	77	48	72	35	65		
5	4	Firoz	76	79	33	73	76		
6	5	Gagan	41	93	52	87	29		
7	6	Meena	90	84	92	43	54		
8	7	Nikki	30	90	39	44	59		
9	8	Tejpal	93	74	42	84	48		
10	9	Vinay	62	81	74	93	86		
11	10	Yusuf	27	27	28	61	48		

Fig 4.32: Activity Sheet for Formula Dragging

	A	B	C	D	E	F	G	H	I
1	S.No.	Name	Hindi	English	Science	Maths	Biology	Total	Average
2	1	Amit	65	84	33	30	69	281	56.2
3	2	Deepak	31	41	87	57	35	251	50.2
4	3	Chetna	77	48	72	35	65	297	59.4
5	4	Firoz	76	79	33	73	76	337	67.4
6	5	Gagan	41	93	52	87	29	302	60.4
7	6	Meena	90	84	92	43	54	363	72.6
8	7	Nikki	30	90	39	44	59	262	52.4
9	8	Tejpal	93	74	42	84	48	341	68.2
10	9	Vinay	62	81	74	93	86	396	79.2
11	10	Yusuf	27	27	28	61	48	191	38.2

Fig 4.33: Result of Activity Sheet for Formula Dragging

Referencing

Referencing is a way to refer the formula or function from one cell to the next cell along the row or column. There are three types of referencing.

- Relative referencing
- Mixed referencing
- Absolute referencing

Till now we have used Relative referencing in the earlier examples.

(a) Relative Referencing

When you drag any formula in any row or column in any direction, the formula gets copied in the new cell with the relative reference. Almost all spreadsheet applications use relative referencing by default.

	A	B	C	D	E
1	S.No.	ITEM NAME	PRICE	QTY	TOTAL
2	1	PENCIL	4	20	=C2*D2
3	2	RUBBER	3	10	=C3*D3
4	3	COPY	25	30	=C4*D4
5	4	BOOK	150	4	=C5*D5
6	5	BOARD	45	15	=C6*D6
7		TOTAL		=SUM(D2:D6)	=SUM(E2:E6)
8					

Fig. 4.34: Activity for using Relative Reference

	A	B	C	D	E
1	SNO	ITEM NAME	PRICE	QTY	TOTAL
2	1	PENCIL	4	20	80
3	2	RUBBER	3	10	30
4	3	COPY	25	30	750
5	4	BOOK	150	4	600
6	5	BOARD	45	15	675
7		TOTAL		79	2135

Fig. 4.35: Use of Relative Referencing

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When we drag the formula downwards in columns, the row number of the cell address gets added by 1. In the same way, when you drag the formula horizontally from the left to the right column, the column name of the cell address is added on to the next column letter.

Refer Figure 4.34, in cell E2, the formula = **C2*D2** has been used to calculate the total price of the pencil. In cell D7, the formula **=SUM(D2:D6)** has been used to calculate total quantity of all items. Now drag formula from cell E2 to E6 vertically and from Cell D7 to D8 horizontally. In Figure 4.34, you can observe that the formula in cell E3 to E6 is C3*D3, C4*D4, C5*D5, and C6*D6. The row numbers have got added by one while column names are constant. As you drag formula from cell D7 to E7, the formula gets changed to SUM (E2:E6) from SUM (D2:D6). The column names get changed, while row numbers will remain same.

Note: To see the formula after dragging as shown in Figure 4.34, Select from Menu ***View>Show Formula***.

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Let's Practice 8

A. Show the formula in cell used in Figure 4.35 for column Total and Average.

1. Prepare a worksheet as shown in Figure 4.36 to calculate the Gross Salary of employees.

	A	B	C	D	E	F	G	H
1	S.No	Name	Basic Salary	TA (6%)	DA(14%)	HRA (10%)	CPF (3%)	Gross Salary
2	1	Amit Sharma	1200	=C2*6/100	=C2*14/100	=C2*10/100	=C2*3/100	=SUM(C2:G2)
3	2	Deepak Gautam	9000					
4	3	Chetna Agarwal	15000					
5	4	Firoz Khan	8500					
6	5	Gagan Tomar	15600					
7	6	Meena Kumari	9800					
8	7	Nikki Khanna	16500					
9	8	Tejpal Singh	14600					
10	9	Vinay Kumar	14900					
11	10	Yusuf Pathan	12800					

Fig. 4.36: Displaying Formula in Relative Reference

2. Type the formula in Cell D2, E2, F2, G2 and H2 as shown in the figure. Now drag each formula

you have typed till row 11 to calculate the gross salary of each person. Finally calculate the total salary of all persons in Cell H12 yourself.

(b) Mixed referencing: As we have seen, when we drag the formula, row number or column name get change in relative reference. Again consider the same sheet prepared in Figure 4.36 with the following changes.

1. Make a new column ***GR Total*** in ***Cell J1*** as shown in Figure 4.37.
2. Type ***Grace Marks 20*** in ***Cell C14***.
3. Now calculate the Grand Total of marks in cell J2 by formula ***=H2+C14***.
4. Now drag the formula vertically from ***Cell J2 to J11*** and check if the grace marks are added for all the students or not.
5. The result shows that only in cell J2, 20 marks are added, with no other change.

Now to see the formula, from Menu ***View>Show Formula*** for what ectly Calc did in this case as shown in Figure 4.37.

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	A	B	C	D	E	F	G	H	I	J
1	S.No.	Name	Hindi	English	Science	Maths	Biology	Total	Average	GR Total
2	1	Amit	65	84	33	30	69	=SUM(C2:G2)	=AVERAGE(C2:G2)	=H2+C14
3	2	Deepak	31	41	87	57	35	=SUM(C3:G3)	=AVERAGE(C3:G3)	=H3+C15
4	3	Chetna	77	48	72	35	65	=SUM(C4:G4)	=AVERAGE(C4:G4)	=H4+C16
5	4	Firoz	76	79	33	73	76	=SUM(C5:G5)	=AVERAGE(C5:G5)	=H5+C17
6	5	Gagan	41	93	52	87	29	=SUM(C6:G6)	=AVERAGE(C6:G6)	=H6+C18
7	6	Meena	90	84	92	43	54	=SUM(C7:G7)	=AVERAGE(C7:G7)	=H7+C19
8	7	Nikki	30	90	39	44	59	=SUM(C8:G8)	=AVERAGE(C8:G8)	=H8+C20
9	8	Tejpal	93	74	42	84	48	=SUM(C9:G9)	=AVERAGE(C9:G9)	=H9+C21
10	9	Vinay	62	81	74	93	86	=SUM(C10:G10)	=AVERAGE(C10:G10)	=H10+C22
11	10	Yusuf	27	27	28	61	48	=SUM(C11:G11)	=AVERAGE(C11:G11)	=H11+C23
12										
13										
14	Grace Marks		20							

Fig. 4.37: Display Formula in Mixed Referencing

In this case as cell address H2 changes from H3 to H11. In the same way the cell address C14 also changes

from C15 to C23. Since there is no value in cell C15 to C23, the result in the cell J3 to J11 are not affected. So to calculate grand total of all students, modify the formula in Cell J2, keeping the address cell C14 constant.

In **Mixed Referencing**, the $ sign is used before row number or column name to make it constant.

Now modify formula in cell J2 as ***H2+C$14*** and drag it downward from cell J2 to J11. Observe the column J from cell J2 to J11 in Figure 4.38, the cell address C14 is constant.

The output of this activity is shown in Figure 4.39. It is

	A	B	C	D	E	F	G	H	I	J
1	Sno	Name	Hindi	English	Science	Maths	Biology	Total	Average	GR Total
2	1	Amit	65	84	33	30	69	281	56.2	301
3	2	Deepak	31	41	87	57	35	251	50.2	
4	3	Chetna	77	48	72	35	65	297	59.4	
5	4	Firoz	76	79	33	73	76	337	67.4	
6	5	Gagan	41	93	52	87	29	302	60.4	
7	6	Meena	90	84	92	43	54	363	72.6	
8	7	Nikki	30	90	39	44	59	262	52.4	
9	8	Tejpal	93	74	42	84	48	341	68.2	
10	9	Vinay	62	81	74	93	86	396	79.2	
11	10	Yusuf	27	27	28	61	48	191	38.2	
12										

Fig. 4.38: Uses of Mixed Referencing

observed that in column J from cell J2 to J11, in the formula, value of cell C14 is constant. The grace marks denoted in C14 cell are being added in each (cell J2 to J11). The cell address H2 is relatively changing from H2 to H11, but cell C14 remains constant. This is ***mixed referencing*** in which one cell address name is variable and one cell address is constant.

	A	B	C	D	E	F	G	H	I	J
1	Sno	Name	Hindi	English	Science	Maths	Biology	Total	Average	GR Total
2	1	Amit	65	84	33	30	69	=SUM(C2:G2)	=AVERAGE(C2:G2)	=H2+C$14
3	2	Deepak	31	41	87	57	35	=SUM(C3:G3)	=AVERAGE(C3:G3)	=H3+C$14
4	3	Chetna	77	48	72	35	65	=SUM(C4:G4)	=AVERAGE(C4:G4)	=H4+C$14
5	4	Firoz	76	79	33	73	76	=SUM(C5:G5)	=AVERAGE(C5:G5)	=H5+C$14
6	5	Gagan	41	93	52	87	29	=SUM(C6:G6)	=AVERAGE(C6:G6)	=H6+C$14
7	6	Meena	90	84	92	43	54	=SUM(C7:G7)	=AVERAGE(C7:G7)	=H7+C$14
8	7	Nikki	30	90	39	44	59	=SUM(C8:G8)	=AVERAGE(C8:G8)	=H8+C$14
9	8	Tejpal	93	74	42	84	48	=SUM(C9:G9)	=AVERAGE(C9:G9)	=H9+C$14
10	9	Vinay	62	81	74	93	86	=SUM(C10:G10)	=AVERAGE(C10:G10)	=H10+C$14
11	10	Yusuf	27	27	28	61	48	=SUM(C11:G11)	=AVERAGE(C11:G11)	=H11+C$14
12										

Figure 4.39: Result of Mixed Referencing after Modifying Formula

In this activity, the row number has been kept constant. The column name can also be kept constant by using $ sign before column name (as $C14) in any formula, if dragging the formula horizontally.

(c) Absolute referencing: In Absolute referencing,a $ symbol is used before the column name as well as row number to make it constant in any

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formula. For example, $C$12, $D$5, etc. In this case, even if you drag your formula in any direction, the cell name remains constant. This type of referencing is used in higher classes.

Thumb rule for referencing

Types of Cell Reference

Example	Type of Reference
A1	Relative reference
$A1	Mixed reference (Column letter is absolute)
A$1	Mixed reference (Row number is absolute)
$A$1	Absolute reference (No change)

Creation of Charts Using Spreadsheets

It is not easy to comprehend, compare, analyse or present data when they are represented as numbers. But when data are presented in the form of charts they become an effective tool to communicate. Let us learn how spreadsheet applications are used for this purpose. The various types of charts are given in Table 4.10.

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Table 4.10: Types of Charts

Types	Purpose
Column Chart	Comparing classes of data items in group. Group comparison
Bar Chart	Comparing classes of data items in group. Group comparison
Line Chart	Comparing classes of data items in group. Group comparison
Pie Chart	Comparing classes of data items as percentage.
XY Scatter Chart	Comparing data in pairs

Let us use the worksheet below to create a **column chart**.

Follow the steps given below to create charts:

- Select the range of data (A1:F7)
- *Insert* → *Chart*
- Select the type of chart

- Select the chart (Column Chart)
- Click finish. A chart as shown in Figure 4.40 will be displayed.

Example: Quadratic function chart of the equation Y=X2-5X-3 is given in the Figure 4.41.

1. Enter the values 2 to 7 in axis as shown in worksheets.
2. Enter the formula below in cell B2.
   = B1^2-5*B1-3
3. Copy the formula entered in B2 upto K2
4. Mark A1:A2 a data range
5. Insert → Chart → XY Scatter

	A	B	C	D	E
1	Usage of Books class wise				
2	Class	Hindi	English	Maths	Average
3	9	22	42	32	32.00
4	10	27	24	33	28.00
5	11	29	25	25	26.33
6	12	20	27	26	24.33
7	Average	24.5	29.5	29.0	

Fig. 4.40: Worksheet with Chart

	A	B	C	D	E	F	G	H	I	J
1	X	-2	-1	0	1	2	3	4	5	6
2	Y	11	3	-3	-7	-9	-9	-7	-3	3
3										

Figure 4.41: Column Chart

	A	B	C	D	E	F
1	Provide Answer based on worksheet below					
2		A	B	C	D	E
3	1	5	6	7	8	9
4	2	10	11	12	13	14
5	3	15	16	17	18	19
6	4	20	21	22	23	24
7	5	25	26	27	28	29

Fig. 4.42: Quadratic function values of x, y

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Let's Practice 9

A. Provide answers of the following, based on the worksheet in Figure 4.43.

- Name the cell range consisting of numbers 12, 10, 19.
- Name the cell range consisting of numbers 27, 20, 15, 22.
- Write the formula in B8 using only cell addresses to calculate the total of the values from B2 to B7.

	A	B	C	D	E	F	G
1	Name	Math	Science	English	History	Sanskrit	Total
2	Harman	86	84	57	71	82	
3	Ankur	89	79	84	78	85	
4	Diksha	52	56	69	84	59	
5	Manish	40	86	36	74	69	
6	Harshita	89	43	42	63	76	
7	Sheetal	52	85	40	34	57	
8	Jyotsana	84	65	71	88	81	

Fig. 4.43: Answers based on the Worksheet

- Write the formula in G3 using function to calculate the total of the values from B3 to F3.
- Write how you would copy the formula in F3 to F4.
- Write the formula in B8 using function to calculate the average of the values from B3 to B7.

B. Create the worksheet below in Calc

Use a single function and create the formula.

	A	B	C	D	E	F	G
1	**Name**	**Math**	**Science**	**English**	**History**	**Sanskrit**	**Total**
2	**Harman**	**86**	**84**	**57**	**71**	**82**	
3	**Ankur**	**89**	**79**	**84**	**78**	**85**	
4	**Diksha**	**52**	**56**	**69**	**84**	**59**	
5	**Manish**	**40**	**86**	**36**	**74**	**69**	
6	**Harshita**	**89**	**43**	**42**	**63**	**76**	
7	**Sheetal**	**52**	**85**	**40**	**34**	**57**	
8	**Jyotsana**	**84**	**65**	**71**	**88**	**81**	

Fig. 4.44: Marks List

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1. Enter the formula in G2 to calculate the total marks scored by Harman
2. Enter the formula in H2 to calculate the average scored by Harman.
3. Enter the formula in B9 to find out the highest score obtained for science.
4. Enter the formula in B10 to find out the lowest score obtained by students in each subject.
5. Enter the formula in B11 to find out the number of students present for each subject.
6. Enter the formula in B12 to find out the average score of each subject.

Check Your Progress

A. Multiple Choice Questions

1. Which of the following technique can be used to allow only date value in cell?

   (a) Data formatting (b) Data sorting
   (c) Data filtering (d) Data validation

2. Which of the following options when selected deletes all data validation?

   (a) Delete formatting (b) Delete all
   (c) Delete formula (d) Delete me

3. We can replace multiple occurrences of a word usingwhich of the following facilities of Calc?

   (a) Find and replace
   (b) By replace only
   (c) By copy command
   (d) By preview command

4. What is the name of mechanism to arrange the data in a particular order?

   (a) Sorting (b) Searching
   (c) Filtering (d) Validating

5. What is the name of mechanism to filter out unnecessary data?

   (a) Sorting (b) Searching
   (c) Filtering (d) Validating

6. Which of the following type of package does Calc refer to?

   (a) Spreadsheet (b) Double sheet
   (c) Multi-sheet (d) Cannot determine

7. Which of the following is an extension of a worksheet created in Calc?

   (a) .ods (b) .odd
   (c) .xls (d) .obj

8. How can one calculate the total of values entered in a worksheet column of?

   (a) By manual entry (b) By auto-sum
   (c) By formula (d) By sum function

9. If we move a cell containing a formula having reference to another cell in the worksheet what will happen to the cell numbers used in the formula?

   (a) The cell row and columns are changed at destination.
   (b) The cell row change at destination.
   (c) The cell columns are changed at destination.
   (d) No change will scour.

10. What is the correct way to enter a function in Calc?

    (a) Directly typing function name in a cell
    (b) Using function wizard or selecting from toolbar
    (c) Both (a) and (b)
    (d) Depends on the function

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11. A function should start with___.

(a) '=' sign (b) alphabets

(c) numbers (d) All of the these

12. Which of the following option is used to print a chart?

(a) Insert → Chart (b) File → View

(c) File → Print (d) View → Chart

13. How many axes does charts in Calc have?

(a) Two (b) Three

(c) Two or three (d) Four

14. The chart preview can be seen in_____.

(a) Page preview (b) Chart preview

(c) Export chart (d) All of these

15. The spreadsheet softwares are _____.

(a) Microsoft Excel (b) LibreOffice Calc

(c) OpenOfficeCalc (d) All of these

16.In a worksheet, the data is entered in _____ .

(a) Cell (b) Box

(c) Active cell (d) Textbox

17. The parts of a Formula bar are _____.

(a) Name box (b) Functions wizard

(c) Input line (d) All of these

18. The intersection of row and column in a spreadsheet is _____.

(a) cell (b) Range

(c) active cell (d) None of these

19. By default, the numbers in a cell are _____ aligned.

(a) left (b) Right

(c) Center (d) Justified

20. _____ are the types of referencing in Spreadsheet.

(a) Relative (b) Absolute

(c) mixed (d) All of these

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B. Fill in the blanks:

1. The column immediately next to column "Z" is _____
2. The default extension of a workbook created using a LibreOffice Calc spreadsheet is _____
3. The spreadsheet feature used to continue the series is called as _____
4. The formula "=MIN(C1:C5)" stored in cell C6 when copied to cell D6 changes to _____
5. The formula in cell A2 is =B2+C3. On copying this formula to cell C2, C2 will change to _____.
6. The cell address of the cell formed by the intersection of the ninth column and the eighth row will be _____.
7. $A1$B2 is an example of _____ referencing in spreadsheet software.
8. Numbers entered into a cell are automatically ___aligned.
9. If A1:A5 contain the numbers 16, 10, 3, 25 and 6 then =Average(A1:A5;60) will display _____.
10. In _____referencing, the reference changes rows and columns automatically when it is copied to a new cell.
11. A spreadsheet is also called as _____.
12. The collection of worksheet is _____.
13. The default sheets available in a spreadsheet software are _____
14. In a spreadsheet, rows are identified by _____ and columns are identified by _____.
15. In a cell, the entered labels as text are by default _____ aligned.

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C. Match the following:

Column A	Column B
i. Insert a column	a. Insert tab
ii. Formatting worksheet	b. Data tab
iii. Add a chart	c. Formula bar
iv. Sorting labels	a. Format tab
v. Sum function	b. Sheet tab

D. Solve the following in a spreadsheet

a. Cell A1 contains the number 10 and B1 contains 5. What will be the contents of cell C1, if the formula =A1+B1*2^3 is entered in cell C1?

b. The contents of Cell A1, B1, C1 and D1 are 5, –25, 30 and –35, respectively. What will be the value displayed in cell E1 which contains the formula =MIN(A1:D1).

c. Cell D5 contains the formula =$B$5+C5 and this formula is copied to cell E5, what will be the copied formula in cell E5?

d. Cell D5 contains the formula =$B5 + C5 and this formula is copied to cell E5, what will be the copied formula in cell E5?

e. Cell D5 contains the formula =$B5 + C$5 and this formula is copied to cell E6, what will be the copied formula in cell E6?

E. Short answer questions (50 words)

1. What do you call the document created in a spreadsheet application?
2. What are the steps to create a new spreadsheet?
3. What is the difference between spreadsheet, worksheet and sheet?
4. What is the default name of the worksheet? How can it be renamed?
5. Write the steps to insert and delete the worksheet in Calc.
6. What is an active cell? How to delete the contents of an active cell?
7. What is relative and absolute cell address in the spreadsheet?
8. Explain any two operations performed on data in a spreadsheet.
9. How do formulae work in a spreadsheet?
10. Can you include more than one mathematical operators in a formula?

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11. How to make visible the desired toolbar a spreadsheet?

12. Give the syntax and example of any three mathematical functions in spreadsheet.

13. Give the syntax and example of any three statistical functions in spreadsheet.

14. Give the syntax and example of any three decision making functions in spreadsheet.

15. Give the syntax and example of any three date and time functions in spreadsheet.

16. Give the syntax and example of any three logical functions in spreadsheet.

17. Give the syntax and example of any three string functions in spreadsheet.

18. Explain the advantages of drawing a chart in Calc.

19. Explain in one line each the various types of charts.

20. Write the steps to insert a chart in Calc.

21. Name and explain any five components of a chart in a spreadsheet package.

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Practical Exercise

1. Explore in how may formats can you save the Calc worksheet using the Save as option. Verify it by opening in the software.
2. Open a Calc document, add seven sheets using Sheet tab, colour them as rainbow color such as "Violet", "Indigo," ….etc. Make sure that "Indigo" sheet is recoloured with indigo colour and so on.
3. Try auto-fill tool with negative numbers.
4. Try auto-fill tools with two dates. Write 15-08-2013 in a cell and in its adjacent cells write a successive data. Drag the content to next 10 cells. Using this technique try to create a monthly calendar.
5. Add your name in to the dictionary so that the red line will not be displayed under it.
6. Implement the example of the shopping bill discussed in this chapter. Study any bill you get from a super store and implement it in Calc.
7. Generate the Calc document with your in all your marks six different subjects. Make total of the marks find out average and percentages from the data.
8. Make a list as given below and sort the list according to Class and then by names.

Name	Class	Section	Date of Birth	Month of Birth	Year of Birth
Khushi	Class 9	D	06	February	2004
Diya	Class 9	A	08	June	2006
Kushaal	Class 3	C	10	July	2010

i. Filter the list of friends you have created in Question 8 above, so that it will display only those friends information whose birth dates are in the month of August.

ii. Use help to find information about sorting and filtering. Prepare notes on these topics using Help.

iii. Use your notes on data validation and also use the data you have entered in Question 8 of this exercise, to validate the data in the date of birth column so that nobody can enter data such as 33. You have to make data validation in such a way that it will accept only 1 to31 numbers as date of birth values.

iv. Consider your marks of different subjects and preparea simple marksheet containing school name, student's number, student's name, class and marks. Also find percentages and marks and grade.

v. Make a small survey in your area and find out the newspaper invited in each house for at least 10 houses. Collect data, arrange them and prepare 3D pie chart based on this.

vi. Consider a mathematical function, such as Y=3*X+1. Calculate the value of Y for each even value of X, as given in the table below.

Value of X	**2**	**4**	**6**	**8**	**10**
Value of Y	**?**	**?**	**?**	**?**	**?**

For this do the following:

1. Enter these values in Calc worksheets
2. Use formula to find out the values of X for each even value of Y
3. Plot a line chart of X and Y values together
4. Format the chart as per your choice

vii. Collect the electricity bill of your home for each month from January to December (12 months). Create a worksheet with the data of Name

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of the Month and Bill Amount as below. Enter the data in a worksheet and develop the chart of various types. Conclude your result that which type of chart will be more appropriate for such type of data.

Month	**Bill Amount**
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

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Digital Presentations

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Introduction

Presenting information clearly and effectively is a key skill to get your message or opinion across the audience. Today, presentation skills are highly required in almost every field. Presentation skills include content as well as flow of presentation. There are a number of advantages of using a presentation prepared with computer.

A presentation includes

- Regular text
- Lists items
- Table
- Graphics elements
- Sound and Video
- Animation

Presentation is used to present the project proposal in business organisations. Presentation is highly used in teaching and training. The concepts that are difficult to explain, can be easily presented to the audience in a simple way using any presentation software. For example, if a teacher wants to teach any biological system

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of a human a complete system can be demonstrated using pictures and animation very effectively through a presentation. Machine parts and operation of various machines can be easily shown. We can also print the presentation in different ways.

Impress is one of the important components of *LibreOffice* suite from ***The Document Foundation***. It is free, open source and widely used by large community to create presentation. You can create presentations using text, graphics and animations for class lecture, corporate training and invited talk. The presentation created in LibreOffice Impress can be opened in other presentation software like MS PowerPoint.

Using Impress, we can read MS PowerPoint presentations and its templates. We can also open any Impress presentation in MS Power Point but with slightly different look and feel. LibreOffice Impress runs on Windows, Linux, and Mac. It may look slightly different on different operating systems.

If you don't have any presentation software on your computer and you have an Internet connection then you can easily download and use the presentation software. The presentation software like MS-Office 365 PowerPoint, Google Presentation or Microsoft SkyDrive PowerPoint are available to make your presentation. These are the software available under the cloud platform in the Internet.

In LibreOffice Impress, an effective presentation can be created by using different multimedia elements. The text editing and formatting, such as bold, colours, text alignment, borders, drawing, etc., of presentation in Impress uses the same commands and options as that of Writer and Calc.

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Characteristics of a good quality presentation

A good quality presentation is required to convey the message clearly to the audience. The following points or guidelines have to be taken care of while preparing a good quality presentation.

(a) Number of lines: On one page or slide try to include 5 to 8 lines. Adding more number of lines or a paragraph may take more time to read as the font size may become too small.

(b) **Font-size:** While preparing the presentation, you need to take care of the room size, distance between the screen and the audience. Accordingly the font size of the texts in the presentation may be decided. It will be appropriate to keep the font size at 32 points or more, so that the audience can easily read the contents.

(c) **Correct use of grammar and language:** The grammar and language should be correct in your presentation, because if you make a mistake that will replicate to the number of persons in the audience. So you must present the contents error free in terms of grammar, spellings of language by reading the slides carefully.

(d) **Inserting images, drawings, tables or graphs:** Try to avoid inserting more than two graphics (images, drawings, tables or charts) in any slide. Inserting too many graphics becomes confusing for the audience.

(e) **Use of colours:** Try to use dark colours, bold letters with different fonts to highlight certain points. Use fair or silent background colours and dark colours for fonts. Give attention to the contrast of background and foreground colours. Bring variation in colours of the fonts as per the readability. Use of dark-coloured fonts over a dark background, or taking only one colour red throughout the whole presentation is not a good practice. Consider the colour that will be more comfortable for the human eyes to see. Use different colours somewhere in between the presentation to show the importance of words.

(f) **Animation and videos:** Do not include more than one animation or video in one slide. Including more than one, will overlap the sounds and may cause confusion to the audience.

(g) **Pay attention to target group:** While creating the presentation, give attention to meet the requirements of the target audience. Focus on the contents, sequence of the topics in such away that it makes a flow to attract the attention of the audience from the objectives. Otherwise,

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the audience might be lost. For example, if you include a video or animation of 5 minutes, it will divert the attention of the audience and the whole objective of the presentation may be lost.

Let's Practice 1

1. List the advantages of Impress with multimedia projector for presentation purpose.
2. List the possible multimedia contents that are included while creating a presentation.
3. List the important points to be considered while making an attractive presentation.
4. Prepare the storyboard of presentation that you wish to create.

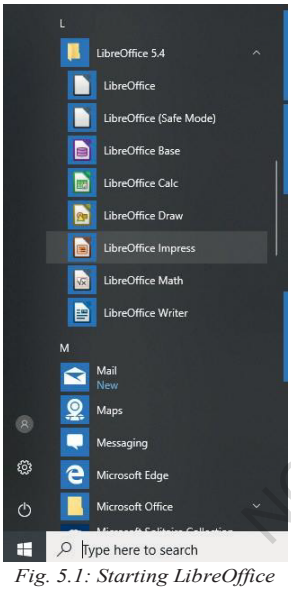


Fig. 5.1: Starting LibreOffice Impress

Getting started with LibreOffice Impress

Starting LibreOffice Impress

To start LibreOffice Impress, just double click its shortcut icon on the desktop. In general, you will find a shortcut of LibreOffice on the desktop or on the Quick Launch Taskbar. The process may slightly differ according to the operating system (Windows or Linux) that you are using.

To start LibreOffice Impress in ***Windows***, double click its shortcut icon on the desktop. Or click on the *Start or Windows button*, select *LibreOffice* → *LibreOffice Impress* from application window.

In ***Ubuntu Linux***, open the LibreOffice Impress using any of the following options:

- Find the LibreOffice Impress icon on the application launcher, and click it to start the application.
- Find the LibreOffice Impress icon through "*Show Applications*" icon on the launcher. To search, enter the word "*impress*'' and select *LibreOffice Impress* from the search results.

After starting *Impress*, its initial window will open as shown in Figure 5.1. It shows the various parts of the *Impress* application window.

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(a) Parts of Impress window: The parts of Impress main window are shown in the Figure 5.2.

(i) Title bar: It contains the name of presentation file with extension (.odp) and presentation application as LibreOffice Impress. It is always in the left of the LibreOffice Impress title bar window. Window manipulation buttons are located in the right corner. These are Minimize, Maximize/ Restore and Close buttons.

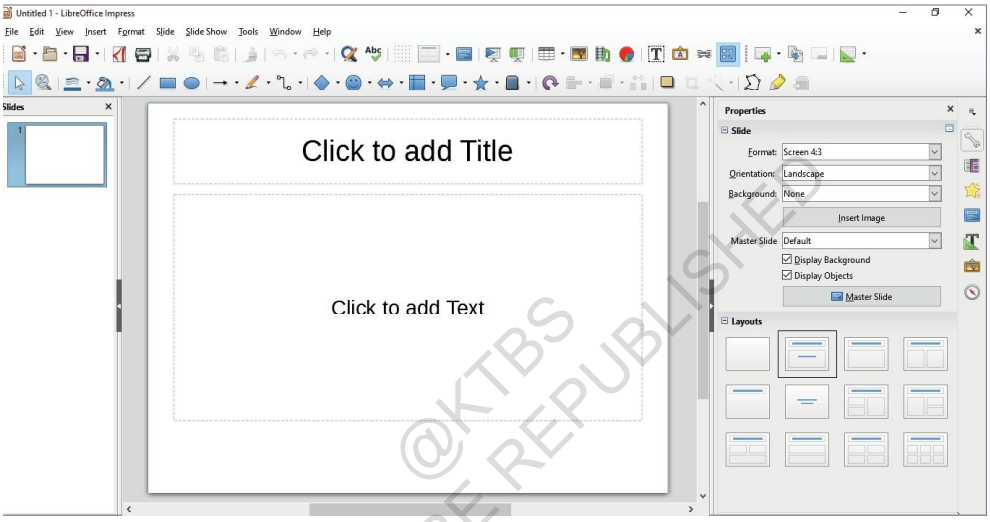


Fig. 5.2: Parts of the Impress Window

(ii) Menu Bar: It contains the menus with logically grouped commands. All the commands required to create the presentation are found here. The various menus are as under:

- **File:** File menu is used to perform basic operations on the presentation (saving, opening an existing one, creating a new one, etc.).
- **Edit:** This menu contains functions for copying, cutting and pasting text segments.
- **View:** It is used for window view adjustment (different view types are selected, zooming, etc.) and for adding toolbars.
- **Insert:** This menu is used to insert various objects like tables, shapes, textbox, and charts into a presentation.

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- **Format:** It contains functions for text formatting.
- **Slide:** It is used to insert new slide, duplicate slide or delete slide.
- **Slide show:** It is a tool for viewing presentations.
- **Tools:** They are used to control spelling in a presentation.
- **Window:** It is used for viewing already opened presentations.
- **Help:** It is used to see the help on any topic in Impress.

(iii) Various toolbar: There are various toolbar to manage GUI of Impress. You can use these toolbar as and when required for various tasks.

- **Standard toolbar:** Each menu of the menu bar are placed here as icons for easy operations.
- **Slide pane:** It is a vertical pane to see the slides in small size to navigate to any slide easily. As you click on a particular slide, that slide will be displayed in larger size in the middle of the window. Now you can modify and make required changes,add or remove effects to complete the slide.
- **Workspace:** This is the central part of the window, where the presentation slides are created, text is entered, images and other objects are inserted.
- **Slides:** This is in the left part of the window and display presentation slides in the thumbnail form. The pane can be closed and opened by clicking on the Slide Pane command in the View menu.
- **Tasks pane:** Task pane is on the right part of the window. Task pane is made up of five components. All components are NOT open as you start this pane. You need to select the relevant object to open it.
- **Master pages:** You can modify the base architecture of slide. You can make the presentation base and a common style for all slides using this. There are a few default slide master pages available in Impress.
- **Layouts:** You can prepare your own layout and keep these safe for future use using this software.

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You can select any of these and modify it or use it as required.

- **Table design:** This gives styles for creating tables. Anyone can modify the style according to his or her own choice.
- **Custom animation:** There are many animation features for the texts, drawings, etc., in a slide. Using this feature you can add, change or remove animation features.
- **Slide transition:** Using slide transition, you can set the way, how the slide will appear during presentation. There are too many ready-made alternatives available. You can also modify features like speed of transition, sound effects, automated transition, etc.
- **Drawing toolbar:** Using drawing toolbar, you can make various artistic works in the presentation to make your presentation effective.
- **Insertion point:** It is a location of the cursor where your text will appear as you type anything (location where the cursor is blinking).
- **Status bar:** It displays information about the active presentation, the current position of the cursor and the zoom slider. It can be adjusted according to user preferences. Status bar can be turned off in the View menu by selecting the Status bar command.
- **Zoom control:** This tool is used to zoom in or zoom out the slide.

Closing LibreOffice Impress

To close the Impress application directly, select the *manipulation button Close* (×), or select the ***File Menu→Exit*** command or use the keyboard shortcut ***Alt+F4*** or ***Ctrl+Q***.

Creating a Presentation

Creating a presentation using template

To create a new blank presentation, select the ***File Menu→New*** or click on the icon *New* or use the combination of keys ***Ctrl+N***.

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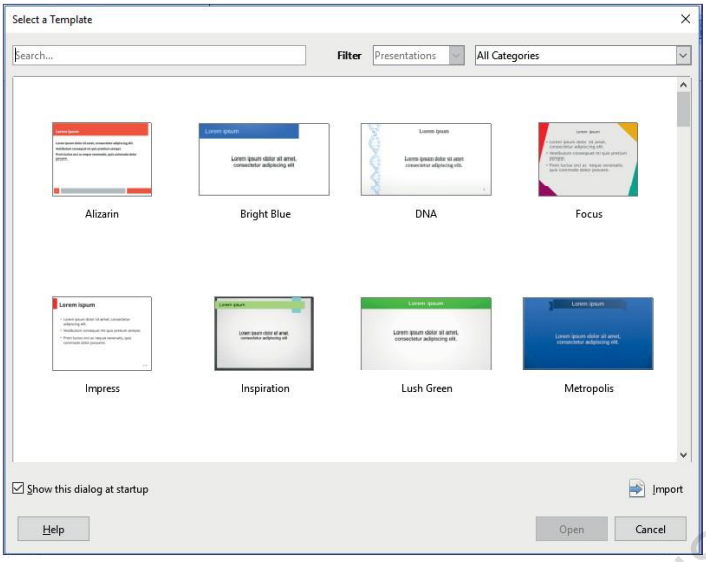


Fig. 5.3: Select a Template

A window '***Select a Template***' will appear. Choose a template as per your choice by clicking on the template as shown in Figure 5.3 to start preparing the presentation.

Prepare your presentation using template. The selected template appears in the form of title slide layout as shown in Figure 5.4.

When creating a presentation, the first slide is normally the title slide. You can use either a blank layout or one of the title layouts as per your title slide. Now enter the title text in this slide as shown in Figure 5.5.

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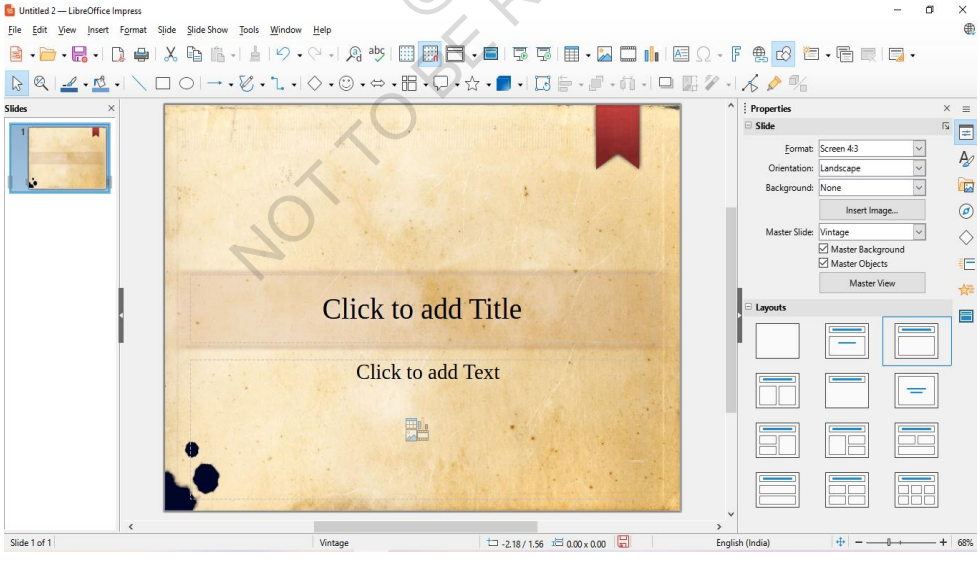


Fig. 5.4 : Creating a Presentation using Template

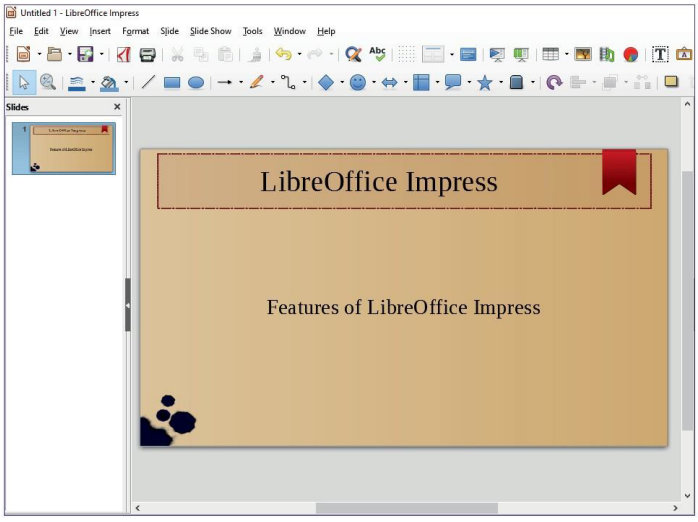


Fig. 5.5 : Enter Title of the Slide

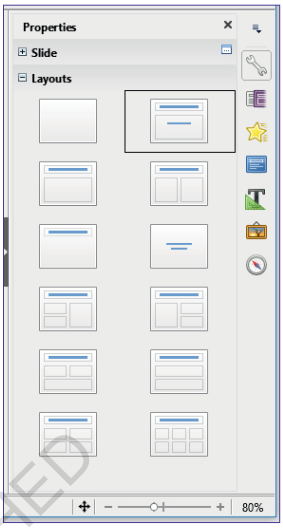


Fig. 5.6: Slide Layouts

Selecting slide layout

An appropriate layout can be selected from Layouts section in the Properties window. The layouts included in LibreOffice range from a blank slide to a slide with six content boxes and a title as shown in Figure 5.6.

You can also select a slide layout by using menu, ***Slide → Slide Layout → Title slide*** as shown in Figure 5.7. The layout you have selected will be applicable in the right side of the window. Alternatively, you can select the slide in the Slides Pane, it will appear in the Workspace and here you can select the required layout from the Layouts section in the Sidebar.

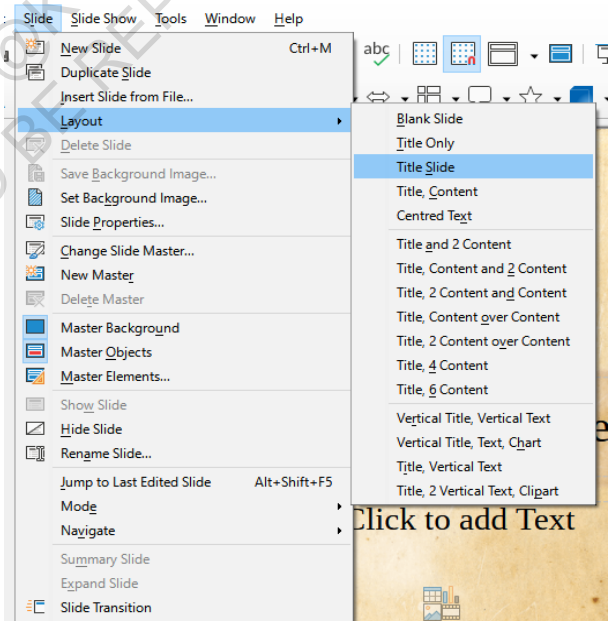


Fig. 5.7: Selecting Slide Layout – Title Slide

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(a) Adding text: To add text to a slide that contains a text frame, click on **Click to add** text in the text frame and then type your text. The Outline styles are automatically applied to the text as you insert it. The Figure 5.5 shows the slide after adding the text.

(b) Saving a presentation: While creating a presentation, you can save it to the disk with some name, so that the content may not be lost or to use the presentation later.

(i) To save the presentation, you are working on, follow the steps as given below: Select the ***File Menu→Save***, or, use the shortcut key combination ***Ctrl+S***, or click on the ***Save*** button on the ***Standard Toolbar***.

This will open the ***Save*** dialog box as shown in Figure 5.8, which allows to select the location on the disk and assign the name to save the presentation.

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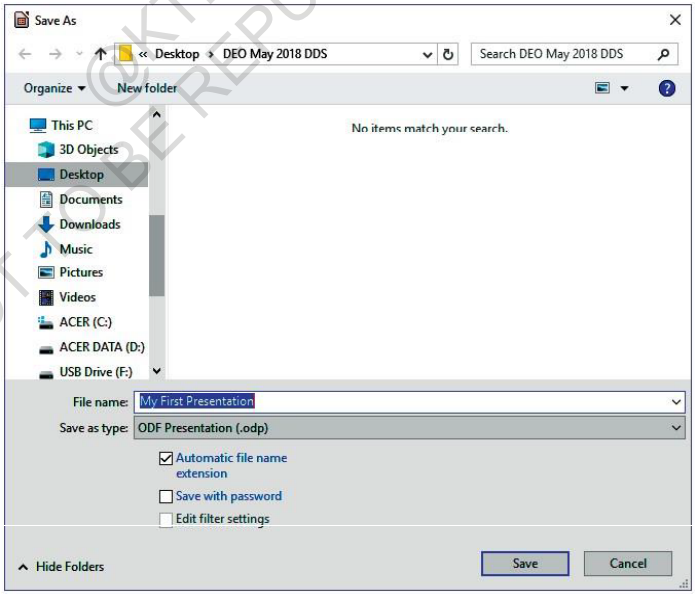


Fig. 5.8 : Saving the Presentation

(ii) To change the location in drive open the directory in which you want to save the file

(iii) Enter a name to the presentation file

(iii) Click Save

(vi) If the presentation is already saved the contents will be updated in that presentation file.

- **Saving a presentation with different name:**

  To save the presentation with a different name, select ***File→ Save As*** or, use the shortcut key combination ***Shift+Ctrl+S***. In Save As dialog box, a new file name can be entered as shown in Figure 5.9 in the File Name field. Saving is finished by using the ***Save*** button.

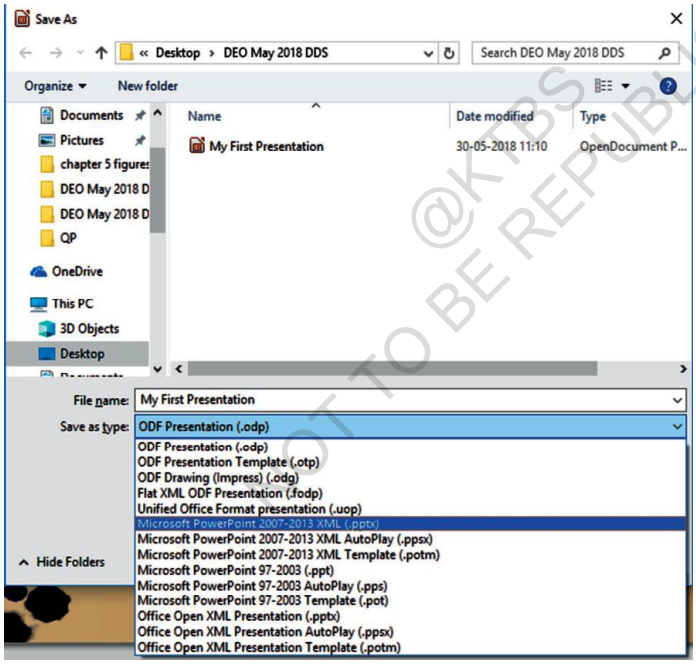


Fig. 5.9: Saving Presentation in Different Format

- **Saving with a different format:** By default the presentation is saved with **.odp** extension. To save a presentation as another file type, select ***File→Save As***. In the Save As dialog box, click on

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the All Formats drop-down menu and select the choice from the offered programs, for example, Microsoft PowerPoint 97/2000/XP/ 2003 (*.ppt) or (*.pptx) as shown in Figure 5.9.

(c) Running a slide show

1. To run the slide show, click ***Slide Show→Start from First Slide*** on the main menu bar or Click the ***Slide Show*** icon on the Presentation toolbar or the Slide Sorter toolbar or Press F5. The slide show starts to run.
2. By clicking the mouse button, you can move to the next slide. Or you can use the arrow keys on the keyboard to go to the next slide or the previous one. You can also Press the Spacebar key on the keyboard to proceed to the next slide.
3. Right-click anywhere on the screen to open a menu for navigating the slides and set other options.
4. In the last slide, you will get a message ***Click to exit presentation***. Just click the mouse button or press any key on the keyboard to exit the presentation.
5. If you want to exit the slide show at any time, just press the Esc key.

- **Saving a presentation as HTML:** To publish the presentation on the web or to open the presentation in the web browser, save it in HTML format (HyperText Markup Language), which could be opened in any web browser. To save the presentation as html:
  - ***(i)*** Click on ***File → Export***
  - (ii) Select the directory in which you want to save the file
  - (iii) Enter a file name
  - (iv) Click Save
- **Save a file in PDF format:** A Portable Document Format (PDF) of the presentation can be created by saving a file in the PDF format, which can be viewed with the free Adobe Acrobat Reader.

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However, it cannot be edited. To save a file in the PDF format:

(i) Click on ***File → Export as PDF***

(ii) Select the directory in which you wish to save the file

(iii) Enter a file name

(iv) Click Save

(d) Closing a presentation

1. To close a presentation, select ***File Menu→ Close*** or use the keyboard shortcut keys ***Ctrl+W***.
2. To open a presentation again, select ***File→ Open*** command, or, use the keyboard shortcut keys ***Ctrl+O***.
3. It will open the **Open dialog box**. Specify the location of the file that is to be opened in the ***Look in*** field, select the files and, open it with the *Open* command.

(e) Using Help

Help function is located in the Help menu. By selecting the LibreOffice Help tab, a window is opened with a list of available help topics (Fig 5.10).

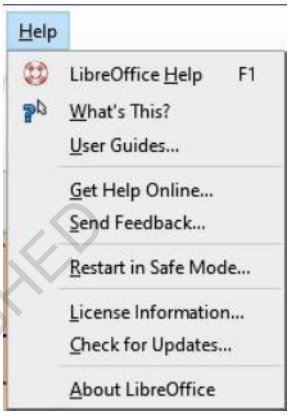


Fig. 5.10 : Help Function

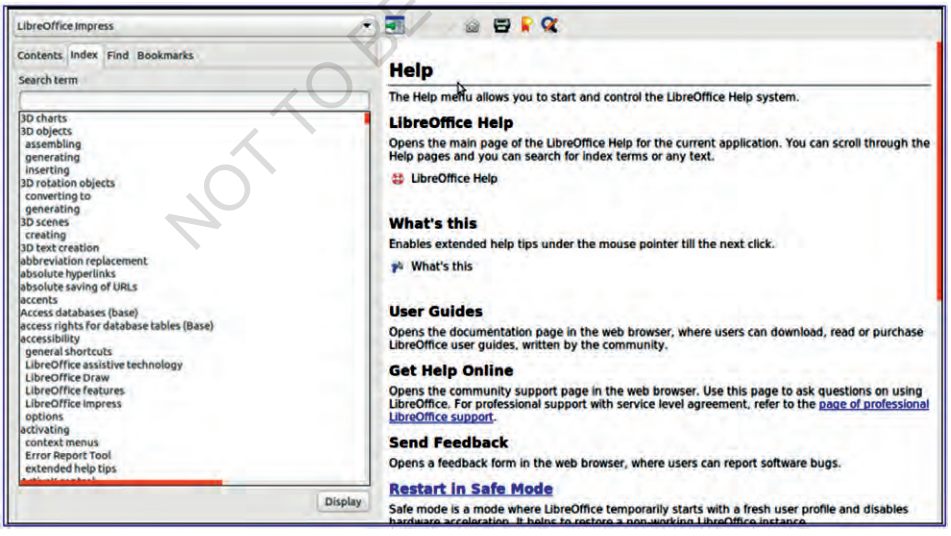


Fig. 5.11 : LibreOffice Impress Help

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In the Search item text box you can enter a term to explore. The quickest way to open the Help function is by using the F1 function key.

Working with slides

Now to carry forward the presentation work, the next slide has to be added. The new slide can be inserted into the presentation by inserting a new slide as well as inserting a duplicate slide. Inserting a duplicate slide will insert the copy of the existing or current slide into the presentation.

Inserting a duplicate slide

Sometimes, you may wish to insert the same slide as the previous ones just like the first page of the book has the title of the book and the same title also appears on the cover page of the book. In such a case you may copy the slide to the next slide. In simple words, you want to duplicate an already created slide. So to insert the duplicate slide:

1. (i) Select the slide you want to duplicate fromthe Slides Pane.

   (ii) Select from menu bar ***Slide → Duplicate Slide***.

   Or,

2. Right-click on the slide and select ***Duplicate Slide*** from the menu.

   Or,

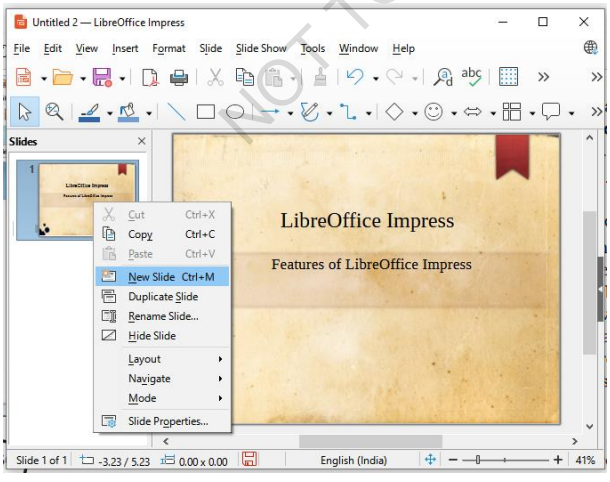


Fig. 5.12 : Inserting Duplicate Slide

3. Right-click on a slide in Workspace and select ***Slide → Duplicate Slide*** from the menu.

   Or,

4. Click the ***Duplicate Slide*** icon in the Presentation toolbar.

You can insert the duplicate slide in your presentation by using one of the above options. After inserting a duplicate slide the presentation will look like as shown in Figure 5.12.

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Inserting new slides

To insert a new slide, use any of the following ways (Fig 5.13(a)):

(i) Select from menu bar ***Slide → New Slide***.
Or,

(ii) Right-click on a slide and select ***New Slide*** from the context menu.
Or,

(iii) Right-click in an empty space in the Workspace and select ***Slide → New Slide*** from the context menu.

Or,

(iv) Click the ***New Slide*** icon in the Presentation toolbar.

Or,

(v) Use the keyboard shortcut ***Ctrl+M***.

(vi) Now insert the new slide into the presentation by using one of the options givenin the '*Insert new slide*'. After inserting a new slide the presentation will look as shown in Figure 5.13 (b).

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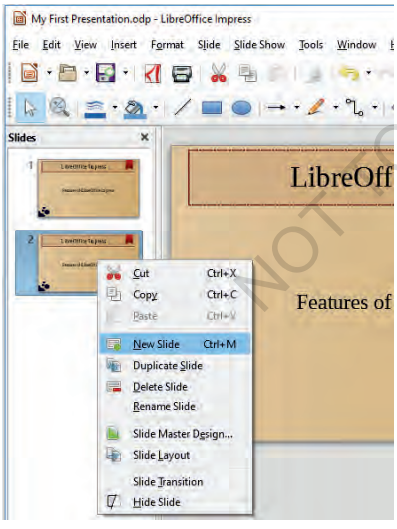


Fig. 5.13 (a) After inserting new slide

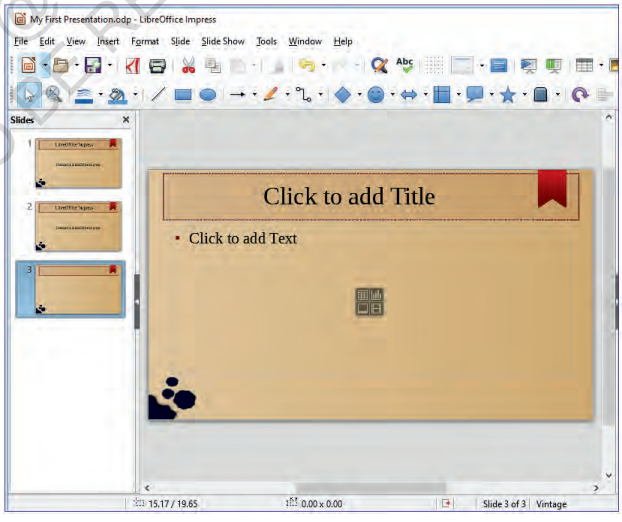


Fig. 5.13 (b) Inserting new slide

Slide layout

After inserting a new slide, the layout contains one or more content boxes. Each of these content boxes can be configured to contain text, movies, images, charts or tables. You can select the icon based on the content by

clicking on the corresponding icon that you want to display as shown in the middle of the content box (Figure 5.14).

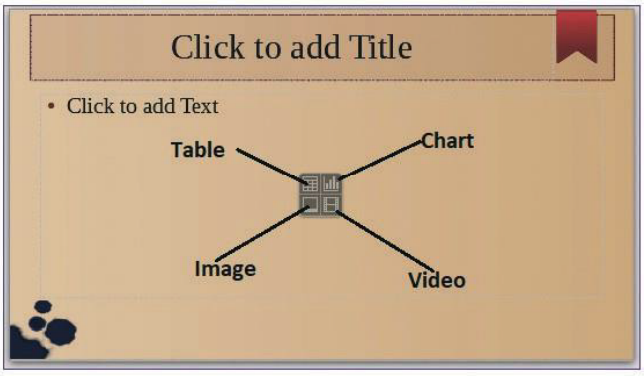


Figure 5.14: Selecting Content Type

To change the layout of a slide, just select the slide in the Slides Pane. It will appear in the Workspace and select the desired layout from the Layouts section in the Sidebar. Several layouts contain one or more content boxes. To use the content box for text, click on ***Click to add text***. Enter the text as you want to display in the slide.

Copying and moving slides

The slides once created can be reused within the presentation or in another presentation. To move the slide to another location use **cut and paste** process. To copy the slide, use the process of **copy and paste**.

(a) Using Mouse: It can be done in 3 ways (Fig 5.15(a), 5.15(b), 5.15(c)):

(i) Select the slide by marking it in the Slide Shorter view, or on the left side of the screen in the Normal view.

(ii) Click on the right mouse button, and select the **Cut** option (if you want to move it) or **Copy** option (if you want to copy it), from the context menu.

(iii) Mark the place in the presentation where you want to move or copy the slide.

(iv) Right click the mouse button, select the Paste option from the context menu.

(b) Using keyboard shortcuts:

(i) Cut – Ctrl + X (ii) Copy – Ctrl + C

(iii) Paste – Ctrl + V

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(c) Drag and drop copying and moving method:

(i) Select the slide that you want to copy.

(ii) Click and hold the left mouse button on the marked slide, and at the same time press and hold the *Ctrl* button.

(iii) Move the mouse cursor to the desired location.

(iv) To Copy, release the left mouse button, and then release the *Ctrl* button.

(v) To Move follow Steps (i), (ii), (iii) and (iv), but without using the Ctrl button.

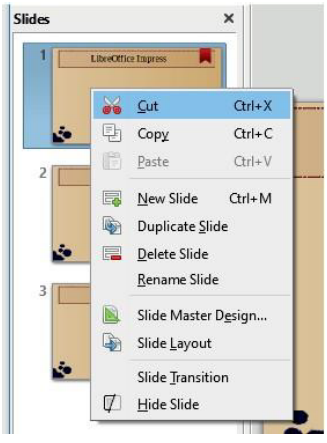


Fig. 5.15 (a) Cut Slide

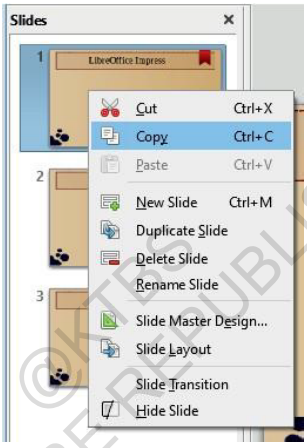


Fig. 5.15 (b) Copy Slide

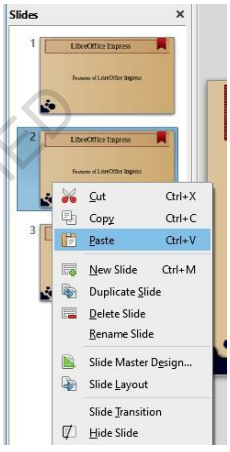


Fig. 5.15 (c) Paste Slide

(d) Deleting slides (Fig 5.16):

(i) Select the slide(s) by marking them in the Slide Pane

(ii) Right click the mouse button on the selected slide

(iii) Select the Delete Slide option in the context menu

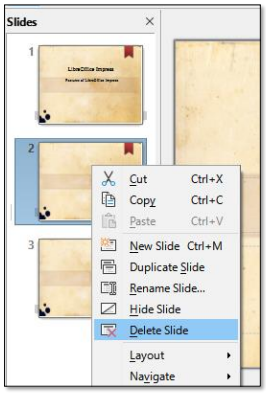


Fig. 5.16 Delete Slide

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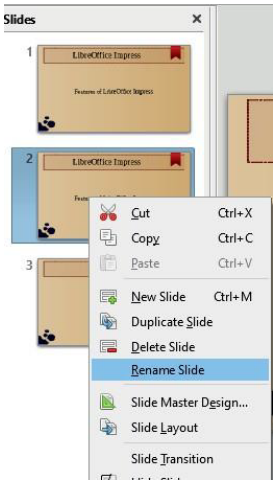


Fig. 5.17 : Rename Slide

Or,

Another quick way to delete the slide is just select the slide and press the Delete button from the keyboard

(e) Renaming a slide (Fig 5.17, 5.18, 5.19) The slides are named as slide1, slide2,… by default. It is possible to give the name to the slide by renaming it. To rename aslide:

(i) Select the slide by marking them in the Slide Pane

(ii) Right click the mouse button on the selected slide

(iii) Select the Rename slide option in the context menu

(iv) A Rename Slide dialog box will appear where you can assign the new name to the slide

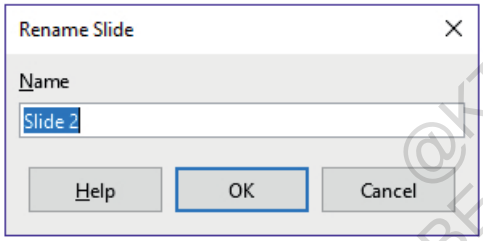


Fig. 5.18: Rename Slide Dialog Box

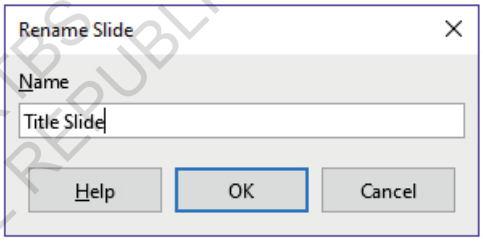


Fig. 5.19 : After Renaming a Slide

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Copying, moving and deleting content

Impress is a component of LibreOffice. So you can use the same commands and options that of LibreOffice Writer for text editing in LibreOffice Impress. To copy or move some text or an object in the presentation to another location (in the same presentation or another presentation), it is necessary to first select the text.

(i) Select the text and click the right mouse button.

(ii) Select the ***Copy*** option from the context menu (keyboard shortcut: *Ctrl + C*) for copying or ***Cut*** option (keyboard shortcut: *Ctrl + X*) to cut.

(iii) Position the cursor on the location on the slide, to where you want to move or copy the content.

(iv) Press the right mouse button and select the ***Paste*** option from the context menu (keyboard shortcut: *Ctrl + V*).

(a) Deleting the text: It is easy to delete the text of the slides. The ***delete*** and ***backspace*** button on keyboard is used to delete the text. The ***delete*** key deletes the character on the right of the cursor, and the ***backspace*** button deletes the character on the left of the cursor. Pressing delete key or backspace keys deletes one character at a time.To delete a line or paragraph of text, first selectthe text and then press the delete key. Alternately you can use the cut option to delete the text.

(b) Undoing and returning the changes: Impress keeps the history of recent changes made.

Sometimes you may apply any command or option by mistake. To revert this mistake, there is a function called as ***Undo***. It returns the document to its previous state. Pressing the key combination ***Ctrl+Z*** *will* undo the last change you have made. Pressing it again, will undo one before that, and so on.



Alternately, use ***Edit→Undo***. Using this method, the menu will indicate what type of operation you will be undoing. Another way to do this is to press the undo icon on the function bar.



Redo function is used to revert the result of the Undo function. It can be used many times, as the Undo function was used. To use this function, use Edit →Redo. If you want to rollback your undo command, you can use redo. You can also execute the redo function by pressing the redo icon on the function bar, or by using the keyboard shortcut ***Ctrl+Y***.

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View a presentation

The presentation created in Impress can be viewed in a number of ways. One may wish to view the presentation in larger or smaller or in medium size. It is possible to view the presentation as per the user's requirement.

Controlling the size of the view

The Contents can be made bigger by zooming in or smaller by zooming out as follows:

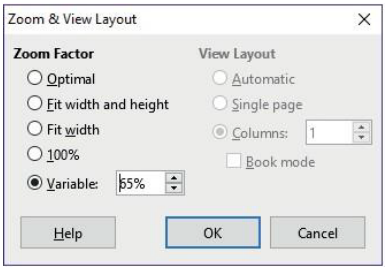


Fig. 5.20 (a) Zoom & View Layout Dialog



Fig 5.20 (b) Zoom In & Out using Slider

(i) Use of the *Zoom slider* on the *Status bar*

(ii) Use of the *Zoom button* on the *Standard toolbar*

(iii) Use the menu option *View* → *Zoom* → *Zoom*, the Zoom and View Layout dialog box will open. Select the appropriate option from it. It is possible to select among the proposed values to increase zoom, or enter your own value, which must be a whole number (Fig 5.20(a))

Zoom slider on the Status bar has two marked sections. If you are positioned in the first highlighted section, the entire slide will display within the Workspace. If you position yourself to the second one, the increase of 100% of the slide, will be displayed. Shown in Fig 5.20(b)

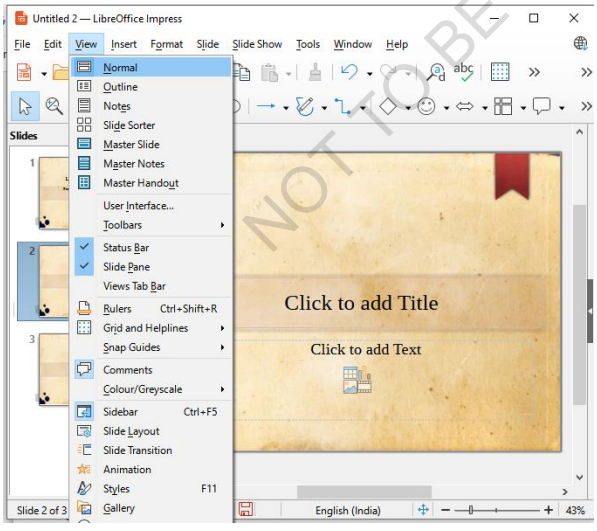


Fig. 5.21: Normal View

Workspace views

The various workspace views are in the drop-down list of the View menu. These views are *Normal, Outline, Notes, Slide Sorter, Slide Master, Notes Master, Handout Master*. The appropriate view can be selected from the View menu.

(a) Normal view: As shown in Figure 5.21, it is the main view for working with individual slides. This view is used to

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format and design and to add text, graphics, and animation effects. In this view, the slide is displayed in the middle of the window. On the left side of the window, the pane with slides thumbnails (slides) is displayed (if the Slide Pane is selected, from the View menu).

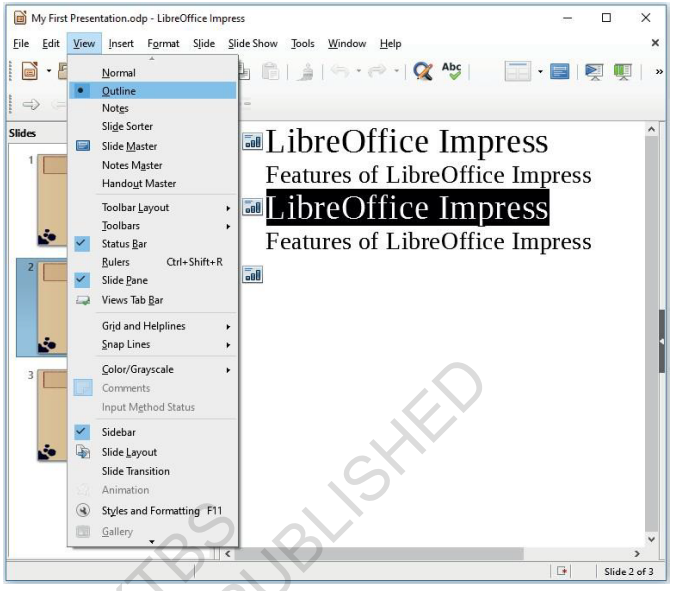


Fig. 5.22 :Outline View

(b) Outline view: As shown in Figure 5.22, it contains all the slides of the presentation in a sequence. It shows each slide in the outline format. Only the text contained in each slide is displayed inside the Workspace. It displays slide text in the form of a structure.

(c) Notes view: As shown in Figure 5.23, it is used to add notes to a slide for the information of presenter. It is not seen by the audience while showing the presentation.
It displays the area in which the notes, are used to help during the presentation.

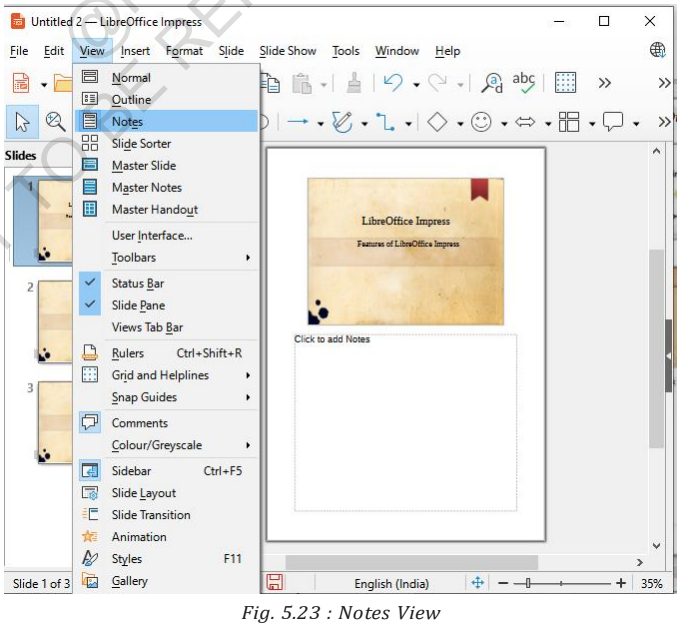


Fig. 5.23 : Notes View

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(d) Slide Sorter view: As shown in Figure 5.24, it contains all of the slide thumbnails. It is suitable for rearranging the slide order. It is used to sort slides using the 'drag and drop' method. Use this view to work with a group of slides or with only one slide.

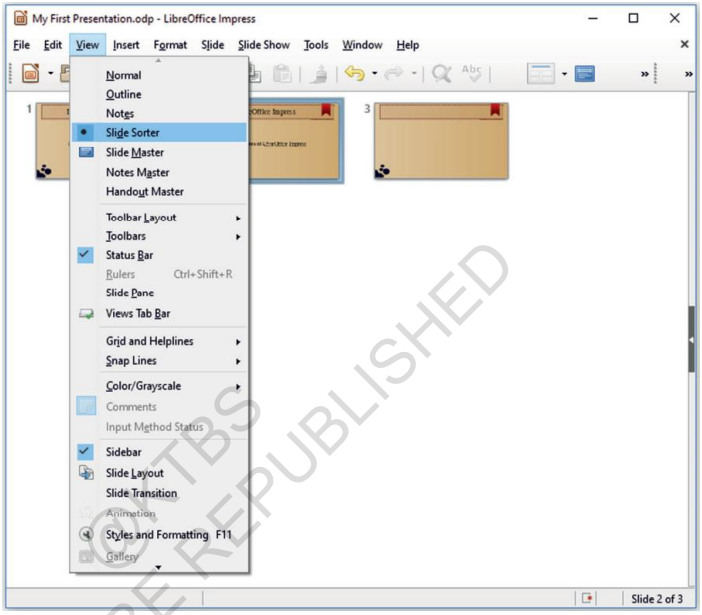


Fig. 5.24 : Slide Sorter View

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Formatting text

The contents of the slides can be formatted in various ways. The most common way is to use the formatting icons on the Formatting toolbar. Another way is by selecting ***Format→Text*** from the menu bar, and the third way is by using the keyboard shortcuts. The various formatting options are explained below and shown in the Figure 5.25.

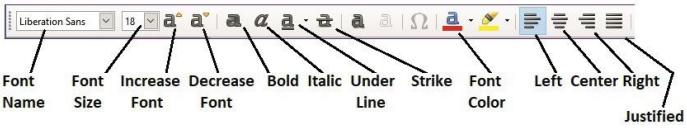


Fig. 5.25 : Formatting Toolbar Options

(i) Font name: Click on the font type drop-down display to see the list of fonts and select a font name.

(ii) Size: Click on the font size drop-down display to see the list of font sizes from where you can select the font size.

(iii) Increase font size: Clicking on **a** with upward arrow, will increase the size of the text (Keyboard shortcut: ***Ctrl+]***).

(iv) Decrease font size: Clicking on **a** with downward arrow, will decrease the size of the text (Keyboard shortcut: ***Ctrl+[***).

(v) Bold: Clicking on **a** changes the text to bold (Keyboard shortcut: ***Ctrl+B***).

(vi) Italic: Clicking on *a* changes the text to italic (Keyboard shortcut: ***Ctrl+I***).

(vii) Underline: Clicking on **a** changes the text to underline (Keyboard shortcut: ***Ctrl+U***).

(viii) Strikethrough: Clicking on ~~a~~ draws a line through the selected text.

(ix) Superscript : Clicking on $\mathbf{a}^{\mathbf{b}}$ raises the selected text above baseline (Keyboard shortcut: ***Shift+Ctrl+P***).

(x) Subscript: Clicking on $\mathbf{a}_{\mathbf{b}}$ lowers the selected text below baseline (Keyboard shortcut: ***Shift+Ctrl+B***).

(xi) Font colour: Clicking on drop-down box (▼) to the right of font colour icon opens the colour pallet from where you can change the font colour.

(xii) Highlighting: Clicking on drop-down box (▼) to the right of highlight colour icon opens the colour pallet from where you can change the highlight colour.

There are other text formatting options that are used sometimes while working with paragraphs.

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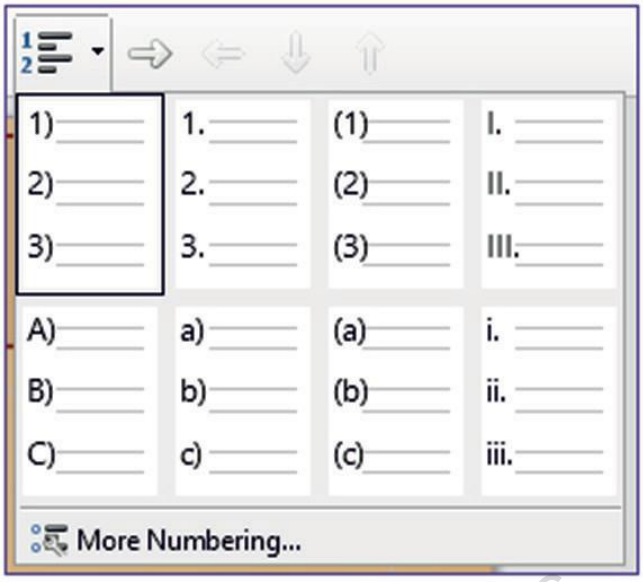


Fig. 5.26: Selecting Numbers

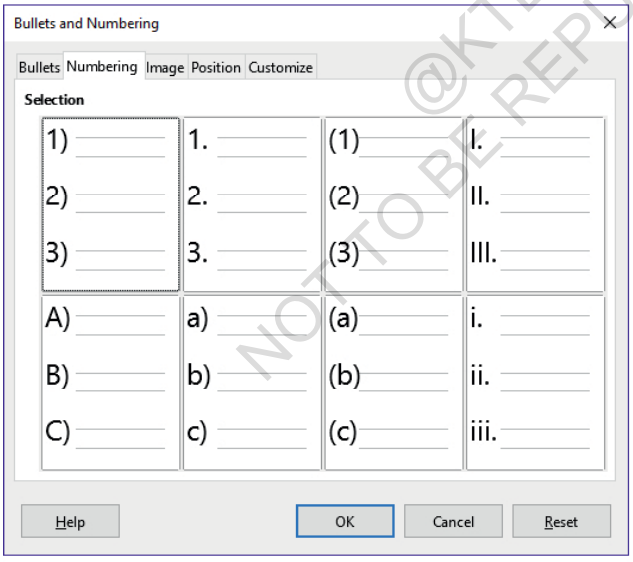


Fig. 5.27 : Bullets and Numbering Dialog Box

(i) The alignment icons are used to align the text to the Left, Center, Right, or Justify.

(ii) Align top, align center vertically, align bottom are used to align the selected text to the top, center or bottom of the text box.

(iii) Bullets and numbering: Creates a bulleted or numbered list from selected paragraphs. Click on the small triangle to the right of the icon to select a bullet or numbering formatting option from a drop-down list as shown in Figure 5.26.

Clicking on ***More Options*** at the bottom of these drop-down lists open the Bullets and Numbering dialog as shown in Figure 5.27.

(iv) Increase paragraph spacing, decrease paragraph spacing: It increases or decreases the spacing above and below the selected paragraphs.

(v) Line spacing: Adjust the spacing between the lines of a selected

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paragraph. Click on the small triangle to the right of the icon and select the type of line spacing from the drop-down list (Figure 5.28).

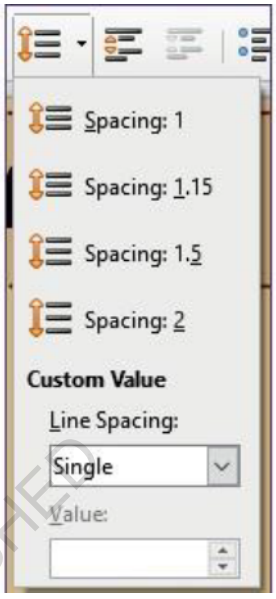


Fig. 5.28 : Line Spacing

Working with tables

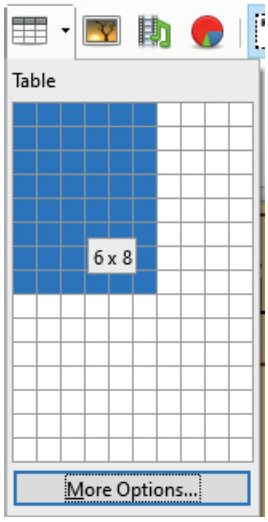


Fig. 5.29 Creating Table

Inserting tables

Tables are inserted by selecting the Table icon on the Standard toolbar, or by selecting the Table command on the Insert tab. Inthe Insert Table dialog box, the Number of columns and the Number of rows are specified.

We have already seen that when we insert a blank slide in the presentation, we can create a table by clicking on the table icon. Tables can also be inserted by selecting the Table icon on the Standard toolbar as shown in Figure 5.29. By clicking on the arrow next to the Table icon, the Table drop-down menu opens. By dragging the cursor, the desired number of rows or columns can be selected. A Table can be inserted from the Insert menu by selecting ***Insert → Table***. In the Insert Table dialog box, the Number of columns and the Number of rows are specifiedas shown in Figure 5.30.

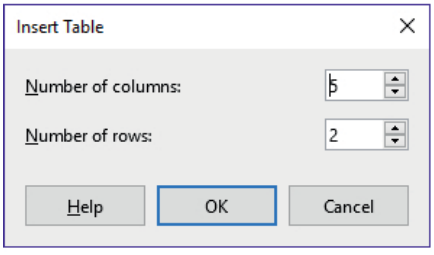


Fig. 5.30: Insert Table Dialog

Entering and editing data in a table

The content is put in table by placing the insertion point in a table cell and entering text. Moving the insertion point in a table can be done in three ways:

- By pressing the left mouse button
- By pressing the TAB key on a keyboard
- By using arrow keys on the keyboard

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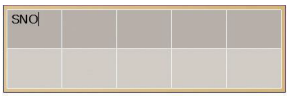


Fig.5.31: Selecting a Table Cell

(a) Selecting a cell: To select a cell within a table, position the mouse cursor along its left edge, and when the cursor changes to a sloped white arrow, press right mouse button (Figure 5.31).

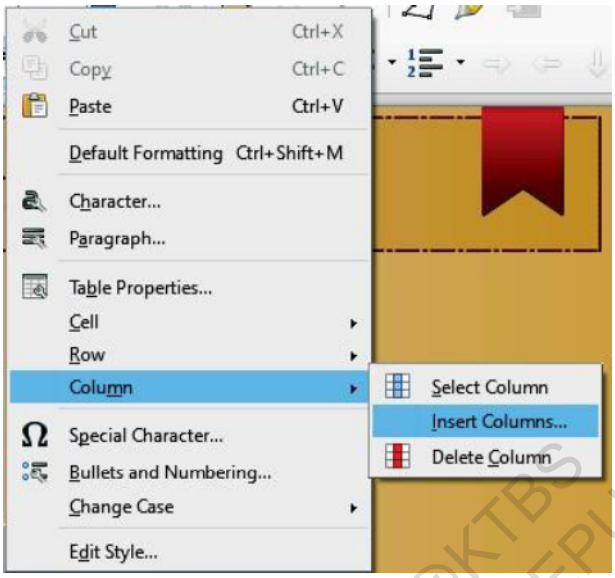


Fig. 5.32: Selecting Column in Table

(b) Selecting a row/column:

To select a row or column in a table, position the row or column to select, and when the mouse cursor changes to a sloped white arrow press the left mouse button and drag it to the end ofthe row or column. A row or column can also be selectedby pressing the right mouse button on the row or column you want to select, and selecting the row or column and Select the option from the context menu as shown in Figure 5.32.

(c) Selecting a table: To select an entire table, first click on its edge. When the mouse cursor changes to a sloped white arrow, click on the left mouse button. To move the table, position on its edge, and when the cursor changes to a sloped white arrow, drag the table to a specified location.

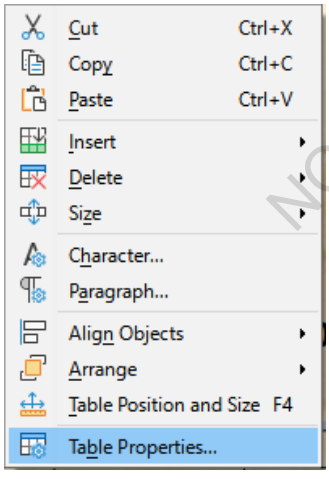


Fig. 5.33 : Selecting Table Properties

Adjusting column width and row height using the mouse

To change the width of the column, position the mouse on the border line between the two columns, and when the cursor changes to a (↔) sign, press the left mouse button, hold and drag it until the column achieves the desired width. The same can be done for adjusting the row height.

Table borders and background

The various table formatting options can be applied on the table just like Writer. The borders and background

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can be assigned to the table. To do this, right click on the table border and click on Table Properties (Fig 5.33), the Table Properties dialog box will open as shown in Figure 5.34, from where you can change the borders and background of the table.

(a) Deleting a table: To delete a table, Click on the slide and drag a selection box over the table to select it, then press the Delete key, Or Click on the table border to select the table and press the Delete key.

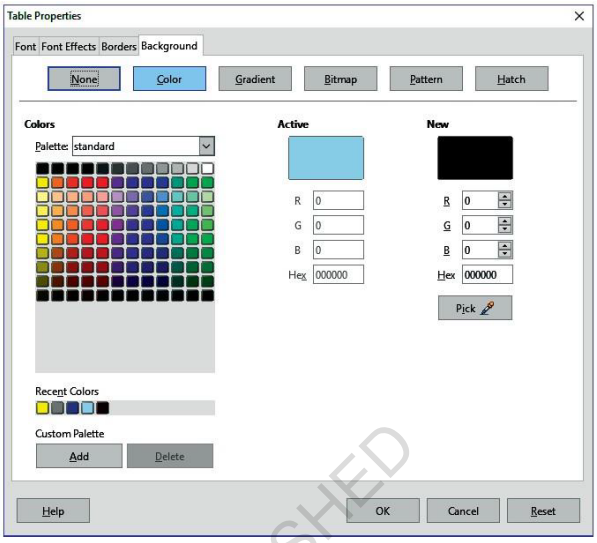


Fig. 5.34 : Table Properties Dialog Box

Adding and formatting images

Graphics can be inserted in the presentations for giving more information. Images can be inserted from the gallery, files stored in the computer.

Inserting an image from a file

(i) To insert an image into presentation, select ***Insert*** → ***Image*** on the menu bar or, click on the Insert Image icon located on the standard toolbar. The ***Insert Image*** dialog opens.

(ii) Select the file from the desired directory. By selecting the Preview option, a thumbnail of the selected image will be displayed in the preview pane on the right as shown in Figure 5.35.

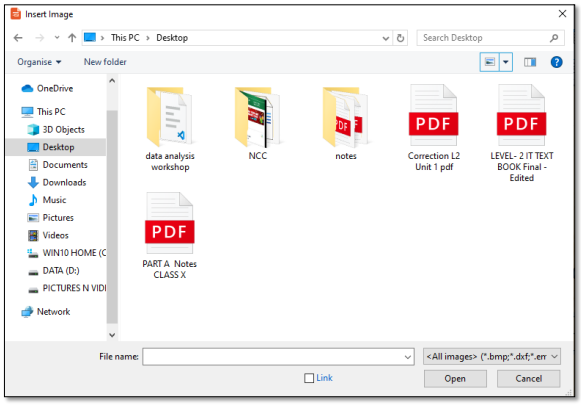


Fig. 5.35: Insert Image Dialog Box

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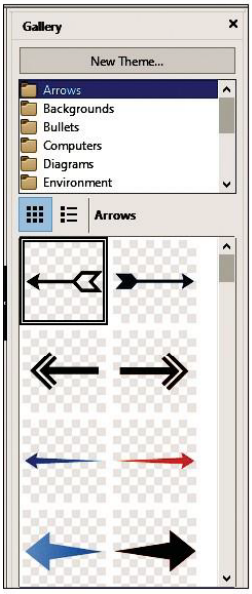


Fig. 5.36: Insert from Gallery

Inserting an image from the gallery

The Gallery contains the images that can be used in a presentation. To insert an image from the gallery:

(i) Select ***Insert*** → ***Media*** → ***Gallery*** from the menu. The Gallery displays the available themes with images (Figure 5.36).

(ii) Select a theme and scroll to find a suitable image.

(iii) Click on the image and drag it onto the workspace.

(iv) Release the mouse button and the image will be placed into your slide.

Formatting images

Formatting an image includes moving, resizing, rotating an image. The image inserted into a presentation can be formatted.

Moving images

(i) To move an image in the slide, click on an image, observe that the cursor changes to hand shape (Figure 5.37).

(ii) Click and drag the picture to the desired position.

(iii) Release the mouse button.

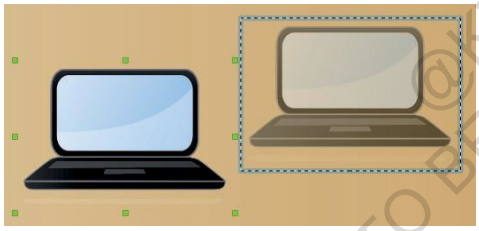


Fig. 5.37 : Moving Image

Resizing images

(i) Select the image by clicking on it. Observe that selection handles are displayed.

(ii) Position the cursor over one of the selection handles. The cursor changes the shape giving a graphical representation of the direction of the resizing.

(iii) Click and drag to resize the image (Figure 5.38).

(iv) Release the mouse button when satisfied with the new size.

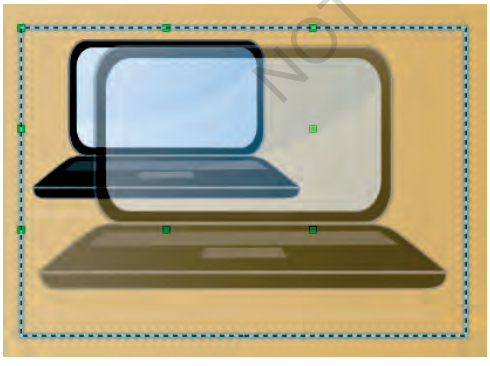


Fig. 5.38: Resizing Image

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Rotating images

(i) An image can be rotated in any direction using the Rotate icon. To manually rotate an image:

- Select the image to display the selection handles.
- Click the **Rotate** icon on the Line and Filling toolbar.
- Click again on the selected image and the selection handles change shape and colour (Figure 5.39).
- Click the mouse and move in the direction in which you want to rotate the image.
- When satisfied, release the mouse button.

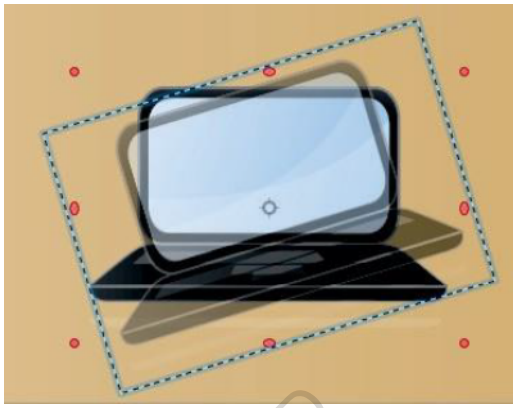


Fig. 5.39: Rotating image

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Formatting using the Image toolbar

When an image is selected, the Image toolbar becomes available under the Properties window as shown in Figure 5.40. This toolbar provides a number of formatting options. The Image toolbar can also be displayed by selecting ***View → Toolbars→Image*** from the menu bar.

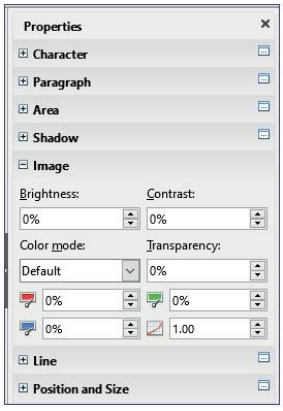


Fig. 5.40: Image toolbar

Managing graphic objects

Drawing tools

Impress provides various drawing tools. The Drawing toolbar having the majority of the tools used to create graphical objects is as shown in Figure 5.41. To activate this toolbar, select ***View → Toolbars →Drawing*** from the main menu bar.



Fig.5.41: Drawing Toolbar

(a) Drawing lines: To draw a line follow the given procedure:

(i) Click on the small triangle to the right of the line tool and select the desired line from the available selection (Figure 5.42).

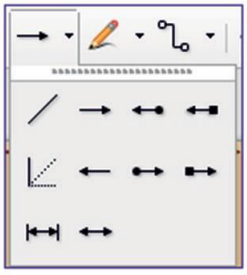


Fig. 5.42 : Lines

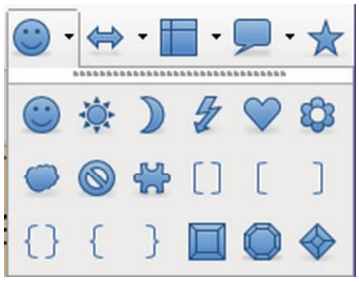


Fig. 5.43 Select Drawing Shapes

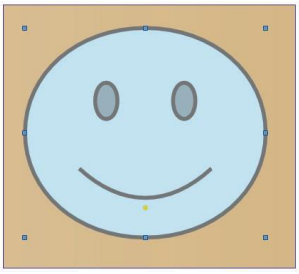


Fig. 5.44: Dragging to Slide

(ii) Click and drag on the slide to create the line or shape and release the mouse button.

(b) Drawing shapes: Similar to drawing a line, you can draw shapes by selecting the desired shape from the available selection (Fig 5.43) and clicking and dragging on the slide (Fig 5.44). An example of drawing the human face shape has been illustrated in Figure 5.45.

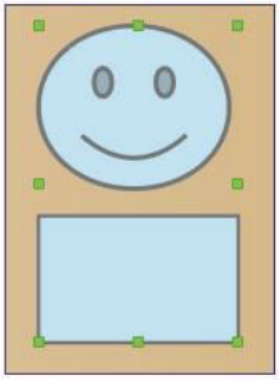


Fig. 5.45: Grouped Object

Grouping objects

More than one object can be grouped together and treated as a single object. A group formed by grouping the objects can be formatted as a single object, moved, rotated, deleted, and so on. To group objects together:

(i) Select the objects to be grouped using selection tool on the Drawing toolbar and draw a rectangle around the objects to be grouped, or hold down the Shift key and click on each object. To select all the objects, go to ***Edit*** → ***Select All*** on the main menu bar or use the keyboard combination ***Ctrl+A***.

(ii) When the selection handles are displayed, go to Format→Group on the main menu bar or use the keyboard combination ***Ctrl+Shift+G*** or right-click on an object within the selected group and select ***Group*** from the context menu. An example of grouped objects has been shown in Figure 5.45.

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Ungrouping

To ungroup objects follow the given procedure:

(i) Select the group by clicking on any one of the objects in the group.

(ii) When the selection handles are displayed, go to ***Format*** → ***Group*** → ***Ungroup*** on the menu bar oruse the keyboard combination ***Ctrl+Alt+Shift+G***
or right-click on the group and select ***Ungroup*** from the context menu.

Working with Slide Masters

Impress comes with various slide masters. These slide masters are available in the ***Master Pages*** section of the ***Sidebar***. There are three subsections, namely ***Used in this Presentation, Recently Used***, and ***Available for Use***. Click the expand marker next to the name to expand it (seeFigure 5.46). It will show thumbnails of the slides. Just click the collapse marker to collapse the subsection to hide the thumbnails. Everyslide masters shown in the ***Available for Use***, lists form templates with the same name.

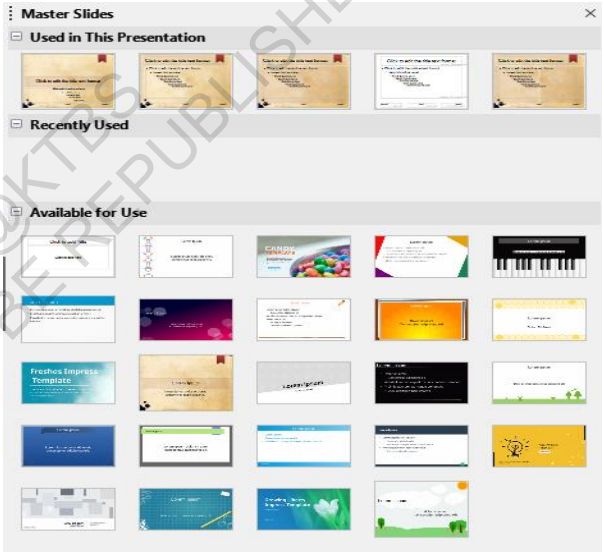


Fig.5.46: Sidebar Master Section

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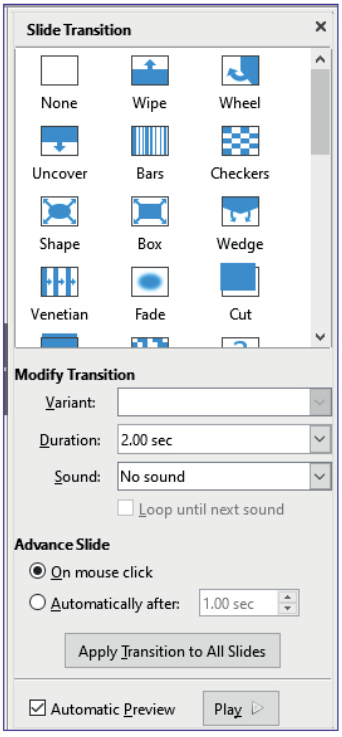


Fig. 5.47: Transition Effects

Adding transitions (Fig 5.47)

(i) In the Sidebar, select the ***Slide Transition*** icon to open the Slide Transition section.

(ii) In the ***Slides pane*** or ***Slide Sorter view***, select the slides to apply the transition. If you want to apply the transition to all the slides, do not select any slides.

(iii) In the ***Apply to selected slides*** list, select a transition.

(iv) Modify the selected transition by changing the speed or adding a sound, in the ***Modify transition*** section. To play a sound during transitions, select a sound from the ***Sound*** list.

(v) If a sound is selected, the ***Loop until next sound*** option becomes active. Select this option to play the sound repeatedly until another sound starts.

(vi) Select how to advance to the next slide: manually (By mouse click) or automatically (Automatically after). To select an automatically advance, you will have to specify how long the slide should remain visible before it automatically advances to the next slide.

(vii) To apply transition to all slides, click ***Apply to All Slides***.

(viii) To start the slide show from the current slide, check transitions, click ***Slide Show***.

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Let's Practice 2

Make a presentation on the basis of clue given below.

Model Story Board	
Slide 1 Subject: ICT Mela, PSSCIVE, Bhopal Color: Green Various ICT Techniques	(Font size: 28) Background: Sky blue Animation: Fade in Slide transition:..... Various ICT Techniques with different Colour

Slide 2 Objectives of the Study 1. To find out the reason behind of ICT Mela. 2. To find out the areas of ICT Mela. 3. 4 .	Font size: (Study objectives : 44) Others: 32 Color: Red Background color: Light Yellow Animation : Fade in Slide Transition: .....
Slide 3 Preparation steps for showing your method of learning. 1. 2.	Font size : (Preparation Steps : 24) Others : 32 Colour : Blue Background colour : Light Yellow Animation : Fade in Slide Transition: .....

Check Your Progress

A. Multiple Choice Questions

1. Which of the following option is not available on Presentation Wizard?
   (a) Empty presentation
   (b) Form template
   (c) Open new presentation
   (d) Open existing presentation
2. Which of the following is not a part of main Impress window?
   (a) Slides pane (b) Workspace
   (c) Work pane (d) Task pane
3. Which of the following is not a section of tasks pane?
   (a) Master pages (b) Layouts
   (c) Custom View (d) Custom animation
4. Which view button listed below is not one of those available in the workspace?
   (a) Normal view (b) Outline view
   (c) Thumbnail view (d) Notes
5. Which view is generally used for creating, formatting and designing slides?
   (a) Normal view (b) Outline view
   (c) Notes (d) Slide Sorter view
6. The slide show can be exited at any time during the show by pressing which of the following keys?
   (a) Space bar (b) End key
   (c) Break key (d) Esc key

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7. Which of the following features is used to create a new slide show with the current slides but presented in a different order?

(a) Rehearsal (b) Custom Slide show
(c) Slide Show Setup (d) Slide Show View

8. Which of the following feature is used to progress the slide show automatically while speaking on the topic?

(a) Custom Animation (b) Rehearse Timing
(c) Slide Transition (d) Either (a) or (b)

9. The online Presentation softwares are _____.

(a) MS-Office 365 PowerPoint (b) Google Presentation
(c) Microsoft SkyDrive PowerPoint (d) All of these

10. The preferred number of lines in a single slide should be _____.

(a) Five (b) Eight
(c) Both (a) & (b) (d) None of these

11. To use the drawing toolbar, go to _____

(a) View→ shapes (b) View → Toolbars
(c) slides→ toolbar (d) slides→shapes

12. Formatting an image includes _____.

(a) Rotation (b) Resizing
(c) moving (d) All of these

13. The order of slides can be changed using _____.

(a) slide sorter view (b) slides pane
(c) both (a) & (b) (d) Handout view

14. Slide design or layout can be changed for multiple slides _____.

(a) Simultaneously (b) one at a time
(c) not allowed (d) none of these

15. Animations applied to the slide can be _____.

(a) changed (b) removed
(c) customized (d) all of these

16. The predefined slide master can be_____.

(a) customized (b) removed
(c) either (a) or (b) (d) none of these

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B. Fill in the blanks:

1._____ is used to maintain consistency in design and colour in the presentation.

2._____ view is used to view all the slides simultaneously.

3._____ is used to perform basic operations on the presentation.

4. Master Page is used to modify the____ of the slide.

5. To create a new blank presentation, use the key combination _____ .

6. In every presentation, first slide should be _____.

7. To save a presentation, we can use key _____combination.

8. In Libre Office Impress, by default the presentation is saved with _____extension.

9. The keyboard shortcut key for slide show is _____.

10. The short cut key to close the LibreOffice impress is _____ .

11. The short cut key to insert a new slide is _____.

12. The view is used to apply animation on the content of slide _____ .

13. A paper copy of presentation given to the audience is known as _____ .

14. To play a sound during transitions, select a sound from the _____list.

15. To play the sound repeatedly, the _____ is used.

16. The presentation software available in Libre Office suite is _____.

17. The preferred font size for the content in slide is _____ points.

18. Group and ungroup option is available in _____ tab.

19. Slide names are available in _____ view.

20. The notes added to slides can be seen during the presentation by the _____.

21. A presentation can have _____ slide masters.

22. The header and footer in the presentation appear on _____ slides.

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C. **Match the following:**

Column A	Column B
i. Normal view	a. add notes to a slide for the information of presenter
ii. Outline view	b. displays multiple slides in a page
iii. Notes view	c. format and add text, graphics,and animation effects.
iv. Slide Sorter view	d. displays slide text in the form of a structure.
v. Handout view	e. for rearranging the slide order

D. Short answer questions (50 words) :

1. List the possible multimedia contents that are included while creating a presentation.
2. List the important points to be considered while making an effective presentation.
3. What are the advantages of using a presentation?
4. What objects can be inserted to slides in Impress?
5. What are the steps to add picture or object to the slide?
6. How can text be added to header or footer on the sliders?
7. Describe the use of fields available in header and footer.
8. Write the steps to create a template.
9. Write down the steps to add slide transition in your presentation.
10. How will you add the slide number at the bottom of each slide?
11. How will you insert a company's logo (picture) in first slide of your presentation?
12. How will you add the name of the company on the top of the each slide?
13. Write down the steps to create a table in a presentation.
14. Write down the steps to insert a chart in slide.

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1. Create a presentation which gives an overview of the science subject. This presentation should contain the following slides:
   (i) Title of the subject (use title slide layout only)
   (ii) Index
   (iii) Introduction of each chapter (Minimum one slide per chapter should be prepared.)
2. For the presentation created in Q.1 above, do the following:
   (i) Rename each slide with the chapter name.
   (ii) Change the font for the slide title.
   (iii) Add a footer hat contains the current date and yourschool name.
   (iv) Apply at least one master page to your presentation.
   (v) Hide slides of even chapters and see the effect.
   (vi) Start the slide show after setting the option asChange slides manually. (Navigator should be visible during the presentation).
2. For the presentation created in Q.1, do the following:
   (i) Convert the presentation to a PDF file.
   (ii) Set the Handout view such that there are 4 slides per page.

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3. Create a presentation which demonstrates details of a car launched by any company of your choice. Include the following sliders:
   (i) Introduction of the company
   (ii) List of cars the company sells.
   (iii) Introduction of the new car launched.
4. For the presentation created in the question above, add the following functionalities:
   (i) All models of the car should be displayed in tabular format. (Model name, Basic Price, Average, Capacity)
   (ii) Modify the appearance of the table and set animation effect as box
   (iii) Add the image of the each model with its description.
   (iv) Change the background colour of each slides of your presentation.

List of General Shortcut Keys used in LibreOffice Shortcut keys for controlling dialogs

Shortcut Keys	Effect
Enter key	Activates the focused button in a dialog
Esc	Terminates the action or dialog
Spacebar	Toggles the focused check box in a dialog
Arrow keys	Changes the active control field in an option section of a dialog
Tab	Advances focus to the next section or element in a dialog
Shift+Tab	Moves the focus to the previous section or element in a dialog
Alt+Down Arrow	Opens the list of the control field currently selected in a dialog These shortcut keys apply not only to combo boxes but also to icon buttons with pop-up menus. Close an opened list by pressing the Escape key

Shortcut keys for controlling documents and windows

Shortcut Keys	Effect
Ctrl+O	Opens a document
Ctrl+S	Saves the current document
Ctrl+N	Creates a new document
Ctrl+Shift+N	Opens Templates and Documents dialog
Ctrl+P	Prints document
Ctrl+F	Activates the Find toolbar

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Ctrl+H	Calls the Find & Replace dialog
Ctrl+Shift+F	Searches for the last entered search term
Ctrl+Shift+J	Toggles the view between full screen mode and normal mode in Writer or Calc
Ctrl+Shift+R	Redraws the document view
Ctrl+Shift+I	Enable or disable the selection cursor in read-only text
F1	Starts the LibreOffice Help
Shift+F1	Context Help
Shift+F2	Turns on Extended Tips for the currently selected command, icon or control
F6	Sets focus in next sub-window (for example, document/data source view)
Shift+F6	Sets focus in previous sub-window
F10	Activates the first menu (File menu)
Shift+F10	Opens the context menu
Ctrl+F4 or Alt+F4	Closes the current document (close LibreOffice when the last open document is closed)
Ctrl+Q	Exits application

Shortcut keys for editing or formatting documents

Shortcut Keys	**Effect**
Ctrl+Tab	When positioned at the start of a header, a tab is inserted
Ctrl+X	Cuts out the selected elements
Ctrl+C	Copies the selected items
Ctrl+V	Pastes from the clipboard
Ctrl+Alt+Shift+V	Pastes unformatted text from the clipboard. The text is pasted using the format that exists at the insertion point
Ctrl+Shift+V	Opens the Paste Special dialog
Ctrl+A	Selects all
Ctrl+Z	Undoes last action
Ctrl+Y	Redoes last action
Ctrl+Shift+Y	Repeats last command
Ctrl+I	The Italic attribute is applied to the selected area. If the cursor is positioned in a word, this word is also marked in italic
Ctrl+B	The Bold attribute is applied to the selected area. If the cursor is positioned in a word, this word is also put in bold
Ctrl+U	The Underlined attribute is applied to the selected area.If the cursor is positioned in a word, this word is also underlined
Ctrl+M	Removes direct formatting from selected text or objects (as in Format - Clear Direct Formatting)

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Answer Key

UNIT 1: Introduction to IT-ITeS Industry

A. Fill in the blanks

1. Information Technology enabled Services
2. Raw facts
3. Information
4. Geographical Information System
5. Business Process Management
6. Learning Management System
7. Digital image
8. Heartbeat
9. Graph

B. Multiple choice questions

1. b 2. a 3. c 4. b 5. c 6. d 7. d 8. a

C. Match the following

i. c ii. a iii. B

UNIT 2: DATA ENTRY AND KEYBOARDING sKILLs

A. Multiple choice questions

1. d 2. a 3. c 4. d 5. d
6. d 7. a 8. b 9. c 10. a
11. d 12. d 13. c

B. Fill in the blanks

1. muscle
2. words per minute
3. Alpha Numeric
4. current
5. 12
6. Numeric
7. Cursor
8. Last
9. right-hand
10. four, five
11. four
12. right
13. toggle
14. home
15. pointing
16. five
17. right

C. Match the following:

i-d ii-a iii-b iv-c

UNIT 3: DIGITAL DOCUMENTATION

A. Multiple choice questions

1. c 2. c 3. b 4. b 5. c 6. a 7. b
8. a 9. c 10. c 11. d 12. d 13. a 14. a
15. b 16. b 17. a 18. b 19. a 20. b 21. b
22. c 23. d 24. b 25. a

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B. Fill in the blanks

1. dialog box 2. another submenu 3. formatting a document
4. beginning of the line, the end of a line 5. redo 6. word
7. top, bottom 8. landscape 9. print preview 10. data source
11. Title bar 12. Standard 13. Ctrl+Home 14. Ctrl+End
15. making selection 16. writing text 17. Cursor 18. Ctrl+X
19. Ctrl+C 20. Ctrl+V 21. Ctrl+A 22. Edit
23. F7 key 24. Format 25. Justify 26. Insert tab
27. Ctrl+P 28. mailing addresses 29. data source , main document
30. form letter

C. Match the following

i-d ii-e iii-a iv-c v-b

UNIT 4: ELECTRONIC SPREADSHEET

A. Multiple choice questions

1. a 2. a 3. c 4. a 5. d 6. d 7. a
8. d 9. c 10. d 11. a 12. c 13. a 14. d
15. d 16. c 17. d 18. a 19. b 20. d

B. Fill in the blanks

1. AA 2. .ods 3. Fill handle 4. =MIN(D1:D5) 5. =D2+E3
6. I8 7. mixed 8. right 9. 20 10. Relative
11. Worksheet 12. work book 13. three(3) 14. numbers, letters
15. left

C. Match the following

i-e 2-d 3-a 4-b 5-c

D. Solve the following in a spreadsheet

a. 50, b. -35, c. =$B$5 + D5 d. =$B5 + D5 e. =$B5 + D5

UNIT 5: DIGITAL PRESENTATIONS

A. Multiple choice questions

1. a 2. b 3. b 4. a 5. d 6. d 7. c
8. a 9. d 10. c 11. b 12. d 13. c 14. a
15. d 16. a

B. Fill in the blanks

1. Master slide 2. slide sorter 3. File Menu 4. Base architecture
5. Ctrl + N 6. Title Slide 7. Ctrl + S 8. odp
9. F5 10. CTRL + W 11. Ctrl+M 12. Normal View
13. Handouts 14. Sound 15. loop until next sound
16. Libre Office Impress 17. 32 18. Format
19. Outline 20. Presenter 21. One 22. All

C. Match the following

1-c 2- d 3-a 4-e 5-b

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NATIONAL SKILL QUALIFICATION FRAMEWORK (NSQF)
MODEL QUESTION PAPER -2024

Class:Level– 1 (IX std) **Subject:IT/ITES** **MaxMarks:60Marks**
Time : 2:30 hours **Sub code : 83E**

I. Choose the correct answer from given alternatives and write with complete sentence. **10×1M=10M**

1. BPM stands for_____
a. Business Process Maintenance b. Business Project Maintenance
c. Business Process Management d. Business Project Management

2. Ina rapid typing tutor, which of the following is not true?
a. Green letters denote right inputs.
b. Yellow letters show right inputs within time.
c. Red letters denote wrong inputs within time.
d. Orange letters denote wrong inputs within time.

3. To check grammar, we should go to which of the following?
a. Tools menu b. Insert menu
c. View menu d. Edit menu

4. Which of the following is keyboard shortcut to redo any operation.
a. Ctrl+R b. Ctrl+Y c. Ctrl+R d. Ctrl+Z

5. The file extension of worksheet created in Libreoffice Calc is _____
a. .ods b. .odd c. .xls d. .obj

6. We can calculate the total values entered in a column by _____
a. Manual entry b. Autosum c. By formula d. SUM function

7. The keyboard shortcut to exit a slideshow is .
a. Space bar b. End key c. Break key d. Esc key

8. A function in Libreoffice Calc starts with _____.
a. "=" sign b. End key c. Numbers d. All of these

9. Which view button is not available in workspace.
a. Normal view b. Outline view c. Thumbnail view d. Notes

10. The feature to automatically slide show when speaking on a topic is _____.
a. Rehearse timing b. custom animation
c. Slide transition d. None of these

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II. Fill in the blanks with suitable answer: **7×1M=7M**

11. _____ is the full form of BPO.
12. The typing speed is measured in _____.
13. Alphabets (A-Z) and numbers (0-9) are known as _____ keys.
14. Headers and footers are available in _____ menu.
15. The default orientation of a page in writer is _____.
16. _____ is the mechanism of arranging data in a particular order.
17. _____ is used to maintain the consistency in design and color in a presentation.

III. Match the following: **5X1M=5M**

Column A		Column B
i.	Title	a. Commonly used commands as icons
i.	Main menu bar	c. Bottom of worspace
ii.	Standard toolbar	d. Icons to format the document
iii.	Formatting toolbar	d. File name of the document
iv.	Status bar	a. Contains menu items

Answer the following questions: **7X1M=7M**

18. What do you understand by the term ITeS.
19. Mention the softtwares available for word processing?
20. What is mail merge?
21. what is a document created in Libreoffice Calc called?
22. How to insert chart in Calc?
23. List the multimedia elements that can be added to slides?
24. How to add a new slide in a presentation.

IV. Answer the following in one/two sentences (any THREE): **3X2M=6M**

25. What are the three main subsectors of IT-BPM industry?
26. Mention the various typing softwares available?
27. Mention the operations that can be done on the data present in spreadsheet?
28. Write the five views of a presentation?
29. Mention the various types of charts in libreoffice Calc?

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V. Answer the following in three/ four sentences (any FOUR): 4X3M=12M

30. Explain the various menus in Libreoffice GUI?
31. Explain the steps to create a new spreadsheet in Libreoffice Calc?
32. How to use formula in libreoffice calc?
33. Explain the advantages of using a presentation?
34. Which softwares are used in digital communication?
35. Write the steps to add and delete a worksheet in calc?

VI. Answer the following in detail (any THREE): 3X6M=18M

36. Explain the various keys available on the computer keyboard.
37. Give the syntax and examples of any three mathematical functions in a spreadsheet?
38. Explain the advantages of a chart in libreoffice calc?
39. Write the steps to include a table in a presentation?
40. Explain the uses of IT in classroom?
41. What are the advantages of a table? Prepare a report card of class VIII in a table format.

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