

Lesson 1

SOFTWARE AND ITS TYPES

WHAT IS SOFTWARE?



Example

We all react differently according to various situations. Have you ever thought how it becomes possible? Let us understand this with the help of an example. What happens when your teacher asks a question in the class? You simply raise your hand if you know the answer. But who prompts you to raise the hand? It is the brain that gives you instructions to react like this. Similarly, a computer gets all the instructions from the software to perform various tasks. Software is the soul of a computer without which it cannot exist.

Computer is a machine that does not possess any intelligence of its own. A computer without instructions is like a car without a driver. It requires a set of instructions given by us to work on. These sets of instructions are called **programs**. These programs are written in computer languages. Software is the collection of programs that are stored and run on computer hardware and help users to work on the computer. Software is that part of a computer which cannot be touched or seen.

Software is of two types: **System software** and **Application software**.

SYSTEM SOFTWARE

System software is defined as a collection of programs that controls the overall operation and internal working of the computer system. It reads data from input devices and transfers the processed information to output devices. System Software is of two main types: **Operating System** and **Utility Programs**.

OPERATING SYSTEM

Operating system is needed to operate a computer. An operating system controls the overall activities of a computer. It acts as a link between the user and the hardware and enables them to work together.



Example

An operating system works like the principal of your school. As the principal has various responsibilities to manage the school, like supervising students, teachers and workers; maintaining discipline, setting the examination schedule, timetable, curriculum and attending parents and visitors, etc., in the same way, an operating system performs various functions to manage the working of a computer. Imagine what will happen if there is no principal in a school. Everything will be mismanaged. Similarly, if the operating system of a computer is not working properly, you cannot work on it.

Fact File

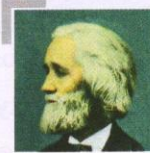


Vinod Dham is popularly known for his role in the development of the Pentium processor and considered as the 'Father of Pentium'.

Let's Discuss

Hardware
vs
Software

Fact File



Sir Christopher Latham Sholes is regarded as the inventor of **QWERTY** Keyboard layout.

The operating system is also required to run software, like MS Word, Paint, MS Excel, etc. MS DOS (Microsoft Disk Operating System), Windows XP, Windows 7, UNIX, LINUX, Mac OS are examples of some popular operating systems.

FUNCTIONS OF OPERATING SYSTEM

The main functions of an operating system are:

Device Management (Input/Output)

An operating system controls the working of all input and output (I/O) devices.

Memory Management

An operating system assigns memory to various programs whenever required. It also frees the memory when it is not in use.

Runs Software

An operating system runs the application software, like Paint, MS Word, MS PowerPoint, etc.

Processor Management

An operating system manages the working of the processor by allocating various jobs to it.

File Management

An operating system keeps track of information regarding creation, deletion, transfer, copy, and storage of files in an organised way.

Security

It provides security by means of passwords to prevent misuse of a computer.

UTILITY PROGRAMS

Utility programs perform specific tasks usually related to managing a computer, its devices or its programs. These programs assist in the smooth functioning of the computer system and help it to perform better. Some utilities help you to avoid virus attack, some in taking backup of data, to recover data that has been accidentally erased and so on. These include anti virus, backup, disk repair, file management, security and network programs.

You can buy various utility programs from licensed computer stores. Some utility programs are also available free of cost on the Internet.

Anti-Virus Utility

They provide protection to your computer against virus attacks. They include tools to recover lost files and protect your machine against system failure.

Back Up

This is a process of recovering data, in case of damage or accidental loss. Occasionally, a hard disk

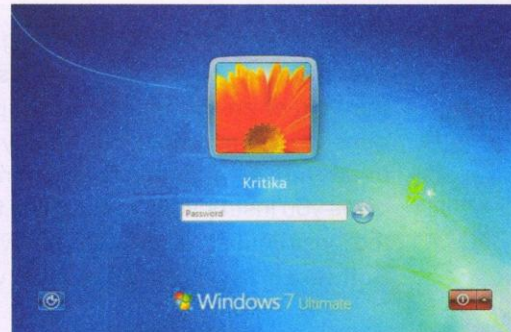


Fig. 1.1: Windows 7 Login Screen



Fig. 1.2: Flash Drive

may fail, resulting in the loss of all files stored in it. Hence, an intelligent user keeps his files on back up storage devices, so that the original files can be restored at the time of such failures.

Example: CD, Flash drive, etc.

Compression

It is a process that shrinks files, so that less disk space is occupied. These files cannot be read directly and must be decompressed to their actual form before use.

Example: WinZip, PkZip, 7-Zip, etc.



Fig. 1.3: WinZip

APPLICATION SOFTWARE

These are sets of programs, developed by programmers in order to perform specific types of jobs, like, beautifying the documents, making calculations, arranging data in an organised way, making airline or railway reservation system, etc. Computer languages are used to make these types of software. These are also called general purpose software.

WORD PROCESSING SOFTWARE

A word processor helps us to create professional looking documents quickly and efficiently. It provides many features to change the text in a desired manner. You can easily add, delete, rearrange, or beautify the text and produce a hard copy of the document as required.

Example: MS Word, WordPad, Writer, etc.

ELECTRONIC SPREADSHEET

A spreadsheet program helps you to perform calculations and display the data in the form of a chart to analyse in a better way. It is used for creating documents to manage and organize numerical data. Some of its application areas are: Financial accounting, cost analysis, interest calculations, etc.

Example: MS Excel, Lotus 123, etc.

DATABASE MANAGEMENT SYSTEM (DBMS)

Each one of us uses database in our daily routine unknowingly. For example, managing telephone diary, phone directories, payroll information, etc. Database software helps us to arrange and store a large amount of information in an organised way. You can easily create, add, find, update, sort, search, print and retrieve the information stored in a database.

Example: MS Access, dbase, FoxPro, Oracle, etc.

DESKTOP PUBLISHING SOFTWARE (DTP)

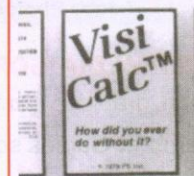
This application helps you to combine both text and graphic features to design

Fact File



Seymour Rubinstein founded MicroPro International Inc. in 1978. MicroPro made the WordStar word processor.

Let's Know More



VisiCalc was the first computer spreadsheet program.



Fact File



Charles W. Bachman received **Turing Award** in 1973 for his outstanding contribution in database technology.

professional documents like newsletters, printed forms, advertisements, books, brochures, posters, magazines, etc.

Example: CorelDRAW, PageMaker, etc.



Fig. 1.4: CorelDrawX5

GRAPHICS, MULTIMEDIA AND PRESENTATION SOFTWARE

It is a known fact that pictorial representation provides a better way to understand the concepts. This has become possible with the aid of various graphics, multimedia and presentation software.



Fig. 1.5: Adobe Photoshop CS5

GRAPHICS SOFTWARE is used to create images, such as charts, graphs, photographs, logos, cartoons and much more.

Example: Paint, Photoshop, AutoCad, Dreamweaver, etc.

MULTIMEDIA SOFTWARE is used to create video, animation, sound, graphics and text with a high degree of interaction.

Example: Games software, Windows Media Player, Windows Movie Maker, etc.

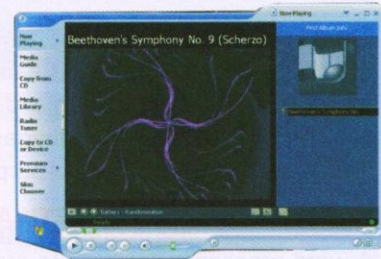


Fig. 1.6: Windows Media Player



Fig. 1.7: MS PowerPoint

PRESENTATION SOFTWARE is used to present an idea or concept. This software helps you to create and display slides on a computer for business and educational purposes. It lets you create slides, charts, animation and video clips.

Example: PowerPoint, Flash, etc.



Points At a GLANCE

- ◆ Software is the collection of programs that are stored and run on computer hardware and help users to work on the computer.
- ◆ Software is of two types: System Software and Application Software.
- ◆ System Software consists of programs that control the operations of a computer and its devices.
- ◆ Utility programs perform specific tasks usually related to managing a computer, its devices or its programs.
- ◆ Application software are a set of programs, developed by programmers in order to perform specific types of jobs.



BRAIN DEVELOPER

A. Fill in the blanks:

1. Software is of two types: and
2. controls the overall activity of a computer.
3. An operating system manages all and devices.
4. programs perform specific tasks, usually related to managing a computer , its devices or its programs.
5. The presentation software is used to present an or

HINTS

- Operating system
- Output
- System
- Utility
- Input
- Application
- Idea
- Concept

B. State True or False:

1. Word processing software helps us in maintaining a document in a presentable manner.
2. Backup is a process of shrinking files on a disk.
3. DTP software helps to arrange and store a large amount of information in an organised way.
4. A Spreadsheet software helps us to perform calculations and analyse data in an effective manner.
5. Multimedia software helps in storing a large amount of information.

C. Match the following by colouring the correct pair with the same colour:

A

- Spreadsheet ▶
- Word Processor ▶
- Graphics software ▶
- Presentation software ▶
- Compression ▶
- Desktop publishing ▶

B

- ◀ WinZip
- ◀ MS PowerPoint
- ◀ MS Excel
- ◀ Corel Draw
- ◀ MS Paint
- ◀ MS Word

3. What is Utility software?

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4. What is the function of Word Processing software?

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5. What is the use of Multimedia software?

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ACTIVITY SECTION



LAB SESSION

Perfection Through Practice



- ◆ Switch on the computer. Click the **Office Button** > **All Programs** > **Microsoft Office** > **Microsoft Office Word 2007**.
- ◆ Type the following text. Save the file using **Office Button** > **Save** option.

WHAT IS INSPIRATION AND MOTIVATION?

Inspiration is changing thinking and Motivation is changing action.

Motivation is like fire ... unless you keep adding fuel to it, it dies. Just like exercise and food do not last long, neither does motivation. However, if the source of motivation is belief in inner values, it becomes long - lasting.

- ◆ Highlight the heading, 'What is Inspiration and Motivation?'
- ◆ Change the font to 'Tahoma'. Make it bold and increase its font size to 16.
- ◆ Click the **Select** > **Select All** option on the **Home** tab. The whole text will be selected.
- ◆ Now, change the font size to 14 and the font to 'Bookman Old Style'.
- ◆ Select the text 'Inspirationaction'. Press **Ctrl+X** to cut the text.