



PUBLIC SCHOOL DARBHANGA

TYPES OF SOFTWARE

There are various softwares written in various languages for different applications. Computer software can be classified into two general categories — System software and Application software.

1. System Software

The set of files and programs that help in operating the computer hardware and computer system itself is called system software. These are low level programs that interact with the computer at a very basic level.

System software includes operating system (OS), drivers for different devices, utility programs, compilers etc.

Let us first learn about the most important system software which is the operating system.

Thus, an operating system helps the computer in understanding our commands and vice versa. Examples of operating system are MS Windows, UNIX, LINUS etc.

Role of Operating System as Resource Manager: A computer system has many resources e.g., processor, memory, files, peripheral devices etc. In a multi-user system where many programs are waiting to be executed and use the resources, it is the operating system which manages the resources and so is called the resource manager.

2. Application Software

These softwares are also called end user programs. They are designed to help the computer user perform a certain type of work e.g., text manipulation. There are word processing softwares and for tabulation of numbers, we have spreadsheets

etc. Application software is not able to run without the system software. These software have been categorised as

(1) General purpose application softwares, (2)

Specific purpose application softwares,

(3) Utility softwares.

Here we will be discussing some of the popular application softwares.

General Purpose Application Softwares

(i) Word Processing Softwares: A very popular category of application software and the most widely used word processing software mainly deals with text manipulation which includes composing, editing, formatting and printing of text. Many advanced softwares also allow the combination of graphics, images, sound etc. with word processing.

Most commonly used word processing softwares are:

(a) Microsoft Word (MS Word) is the most widely used word processing software which runs on Windows operating system. A MS Word document window is shown in Fig. 4.2.

(b) **WordPerfect** is also a word processing software which works on MS-DOS platform.

(c) Some elementary word processing softwares such as WordPad and Notepad come along with the Windows operating system.

We will be learning more about word processing softwares in coming chapters.

(ii) Spreadsheet: Spreadsheet generally refers to a table of values arranged in rows and columns. The values may be linked to each other such that change in a value changes the other related values accordingly. Computer programs that help in preparing data tables, calculation and manipulation of the data are called spreadsheet application programs.

Some of the important spreadsheet application programs are Lotus 1-2-3, MSEXCEL, Visi Calc etc.

Many spreadsheet application programs generate charts and graphs from the data which are automatically rebuilt when the data changes. These charts can be embedded in the same sheet or can be exported to other documents.

One of the key function of DBMS is to enforce data security. Based on the role of user, DBMS ensures that the user is given access to only the appropriate data, eg., Foxpro, Access, Oracle, MySQL, RDBMS etc.



Fig. 4.3: MS-Excel Worksheet

(iii) DBMS (Data Base Management System): A database is a collection of logically related data.

A DBMS is a set of programs that helps to organise, store, modify and maintain and retrieve information from a database.

A database query language is used to retrieve information from the database, analyze, modify and update the database according to user's requirement. One of the key function of DBMS is to enforce data security. Based on the role of user, DBMS ensures that the user is given access to only the appropriate data, eg., Foxpro, Access, Oracle, MySQL, RDBMS etc.

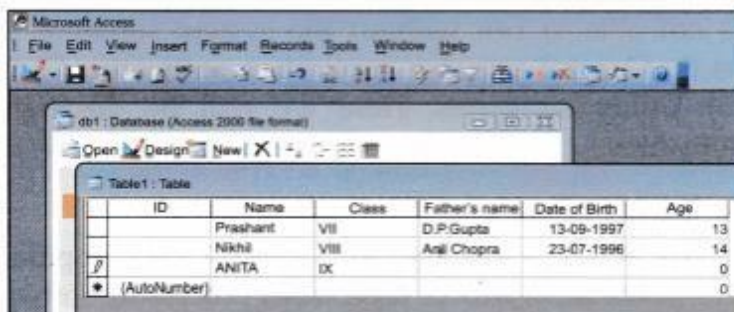


Fig. 4.4: Database created in MS-Access

(iv) Desktop Publishing (DTP): DTP refers to layout, design and production of publications using computers with graphics capabilities. DTP softwares are special programs used on personal computers to design the layout and print documents which include text, graphics, pictures etc.

DTP softwares are mainly used for designing and printing of newspapers, advertisements, books etc. For example, Adobe PageMaker, CorelDRAW, Quark Xpress. Another related term being used nowadays is electronic publishing which refers to production of documents which are supposed to be viewed onscreen. These include sound and animation too.

DTP vs Word processor: They are almost similar and you may not be sure of which to use.

Similarities

1. They can format text.
2. They can insert tables and pictures.
3. They allow the use of clipart, wordart, picture formatting, text styles and colours.

Differences

1. A DTP software is not used for huge amount of text. The text is entered through word processor and DTP software takes care of putting it into frames and publishing it professionally.
2. The size, shape and position of picture can be adjusted without disturbing the text position while using DTP software. But any modification of a word processing document would require readjustment of the whole text in the file.

(v) Graphics Software: A software used to create, edit and manage 2-D graphics like images, clipart, logos etc. is called a graphics software. For example, Photoshop, Coreldraw, Paint Shop Pro, Microsoft Paint etc. For 3-D images, we use CAD (Computer-Aided Design) software. It is used in architecture and engineering where machines or models are first constructed on computer, the strength and weakness of the model is tested on computer and then the design is implemented.

(vi)Multimedia Software: A software that helps us to integrate more than one presentation medium such as text, sound, animated graphics, video images etc. on a CD or a website is called multimedia software. The development of this software has brought a revolution in the field of education and entertainment. Interactive learning programs and many computer games are all the babies of multimedia software. For example, Windows Media Player.

(vii)Presentation Software:This software helps in designing and developing slides for displaying information. The slides can include text, animation effects, sound, video images. The presenter can record and include his/her own voice and set the time for each slide thus, making it more interesting. For example,MS PowerPoint, Apple Keynote, Corel Presentations etc.

2. Specific Purpose Application Softwares

Such softwares, as the name suggests, are designed to accomplish a specific task. There are numerous specialist softwares available these days. Some of them are discussed as under:

1.Speech Recognition Software that enables voice activated typing.

2.Screen Reader that enables visually impaired people to access the Windows desktop.

3.Subject and Language Softwares that help to practise language learning skills.

4.Accounting Management Software Packages help in maintaining accounts and book-keeping on computers. They record financial transactions, produce reports and can prepare the balance sheet of the finances. So it is basically a set of integrated programs like spreadsheets, word processor etc. They may also have modules for payroll, inventory control, credit and debit statements etc. Tally is a very popular accounting management package.

5.Reservation System: A very popular system which has made our travelling very comfortable is reservation system. Many websites like make my trip.com, yatra.com etc. can make the reservations according to our convenience and budget, for mode of travel (train/bus/airplane), hotels, guest houses and sight-seeing arrangements etc.

6.Human Resource Management Software:Human resource (HR) management deals with the human capital, i.e., administration of the workforce in an organisation. This includes recruiting, training, payroll, performance record etc. With a large workforce and so many areas to track, it has become necessary to automate the HR management system. So various programs and softwares pertaining to these activities when integrated together, form the human resource management software. Some generalised softwares are available in the market. If an organisation wants a custom made software it can get it tailor-made from a software developer.

7.Attendance System Software:This software allows the organisations to record and keep track of attendance of their employees. This software is many a times integrated with the HR management software and payroll software to calculate the pay of employees. For example, Time and Attendance Plus 1.0.2, Time Trex, Time and Attendance Software 3.0.

8.Payroll System Software: This is a very common software which is used almost by every organisation to prepare salary of their employees along with taxation. These softwares are user-friendly and flexible so that the organisation can define their own policies of additions and deductions.

9.Inventory Control System Software:Inventory in other words is stock, and inventory control refers to stock management. An inventory control system for a store keeps record of all the items in the store, their description, supplier details, quantity, transaction details, customer details etc. Thus, it helps in tracking sales and inventory.

10.Billing System Software:The most widely used software type is the billing system. A billing system software is used to calculate the total payment to be received from customer along with product ordered. It can incorporate various overheads like service tax, VAT etc. and can also include deductions like discount etc. Various payment mode options are also a flexibility. Some softwares also have option for monthly, weekly, hourly and yearly billing.

3.Utility Softwares

The operating system provides various capabilities but there are small programs which provide added capabilities and are called utility software. They assist the computer in its smooth working. Some of them are discussed below:

1.Files Manager:It helps in data management tasks like deleting, moving, copying, merging, modifying and restricting access of data stored in files.

2.Text Editors:It is a type of program used for creating and editing plain text files. A plain text file is different from a word processor document file. A plain text file uses ASCII text which does not have any special codes for screen display, whereas word processor documents have styling characters for features like bold, italics fonts etc. Web pages are built using plain text files. HTML tags are added for providing the display information to the web browser. Notepad is an example of text editor provided with MS Windows.

3.Backup Utilities:It is a program that keeps a copy of all the data and information stored on a disk. In case of disk failure, the whole or part of data can be traced by the backup utility program.

4.Antivirus: A virus is a program which can copy itself and infect a computer without the knowledge of the user. This program often corrupts or deletes the data or files. Viruses usually spread while using internet or an infected storage device. To protect the system from viruses, many users install anti-virus software which can detect and remove the virus from the system. Antivirus software has to be regularly updated to prevent latest virus threats.

Examples of viruses: Trojan, Way, Trj. Reboot, Disk killer, Stone virus, Malissa.A, Joshi, Cascade etc.

Some of the antiviruses are AVG, Kaspersky, Norton, Mcafee.

5.Encryptor/Decryptor:Encryption means transforming text in such a way that only someone possessing special knowledge can read it. Encryption is used to protect data in transit, , data in a network, bluetooth, mobile phones etc. A decryptor converts the code back to plain text. Programs like USB Crypt can encrypt files on your storage device. So in case the device falls into wrong hands, no one will be able to access the files stored on it until he knows the password to decrypt it.

6.Disk Management:There are various programs that help in managing the disk. On frequent insertion or deletion of data, small fragments of empty memory spaces are left which are scattered. These are called fragments. Sometimes it is not possible to store a file although enough space is present on the disk but is in

fragments. Hence, the file is forced to be split and stored in fragments. A fragmented file takes more time to be accessed. A disk defragmenter detects such files and empty fragments and moves them together such that the empty fragments form a continuous block and the files get continuous too. Disk compressors like Winzip can compress and uncompress the contents of a disk to increase the capacity of the disk.

Disk checkers check the disk for bad sectors and either correct them or delete the data which was not properly stored.