

-:(Intro to Computer):-

Chapter # 01:-

Software :-

A set of instruction which is given to the computer to perform specific task. Software tells the computer what to do and how to do. Software is also known as Program.

Types of Software :-

There are two major types of Software

- System Software
- Application Software

(i) System Software:-

The system softwares is used to manage and control the computer hardware and software itself. These software runs in the background, maintaining the basic functions of Computer.

Example:-

i- Operating System (OS)

ii- Drivers.

Operating System:-

An Operating System is the program that manages all of the other application programs in a Computer.

It is a system software that is used to provide an interface between user and computer.

Example:-

- Windows
- Linux
- Android
- iOS system

Drivers:-

A computer driver is a set of files that help your computer's operating system with certain pieces of hardware, like

a graphic card.

It is used to control and manage computer hardware components.

Example:-

- CD/DVD drives
- Printers drives
- Graphic Cards and ports.

(ii) Application Software:-

An Application software is specially developed for user to perform different specific tasks.

Types of Application Software:

There are two types of Application Software.

- Custom-built Software
- Packaged Software

Custom-Built Software:-

The software which is specially designed for some specific organization or other users. It is also known as customized software.

Example:-

- E-commerce (Alibaba, Daraz)
- Software for Maintaining patients Records in Hospital.

Packaged Software:-

The application software which are developed for people to solve different types of problem is called Packaged Software.

Example:-

- MS Office
- MS Access
- WhatsApp

Programming Languages:-

A programming language is a set of instructions, words and special symbols written by a programmer to give deliver instruction to the computer to perform a task.

Types:-

- There are two major types of programming languages.
- High-Level-Language
 - Low-Level-Language.

High Level Language:-

High Level Languages are programming languages that are designed to allow humans to write a computer programs. It is easy to learn and error free.

Example:-

- C, C++, Cobol, Pascal, Python etc

(ii) Low Level Language:-

A low-level language is a sort of programming language. It is very close to actual machine code. It is difficult to read and write.

There are two types of low-level languages.

- Machine language.
- Assembly language.

Machine Language:-

Machine language is a low-level language made up of binary numbers or bits.

that a computer can understand. Computer is easily understand the program written in Machine language.

Assembly Language:-

Assembly language is also a low-level language that made up of the keywords called mnemonic keys. Assembly language is a English like words.

-: Language Translator:-

The computer cannot understand the instruction written in High level languages directly. Computer can only understand the machine code.

The software which is used to convert the code written in High level language into machine code is called Language Translator.

Types:-

There are Three types of Language Translator.

- Compiler
- Interpreter
- Assembler

Compiler:-

Compiler is a type of language translator which is used to convert the code written in High level Language into machine code.

Compiler reads the whole program if the program is error free then it convert into machine code.

Example:-

Turbo C++

Interpreter:-

Interpreter is also a language translator that convert the program into machine code

line by line. Interpreter is slower than Compiler.

Assembler:-

Assembler is a language translator which converts the code written in Assembly language into machine code.

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Chapter 01:-
Types of Computer:-

There are Six categories
of Computer:-

- Embedded Computer
- Mobile Computer
- Personal Computer
- Server Computer
- Main-Frame Computer
- Super Computer

1:- Embedded Computer:-

An embedded computer
is a dedicated computer
system that forms an integral
part of a large machine or
system.

It is tiny computer embedded
into a product design to

perform the specific tasks,
or functions of that product.

Example:

Computers are embedded into
household applications like,
Microwave, DVD players, CCTV
camera, washing machine.

2:- Mobile Computer:-

Mobile Computers are
portable computing devices that
can connect by, telephone, wire,
wireless transmission or via any
internet to data system.

Example

- Smartphones
- Tablets
- iPad

3. Personal Computer:-

The computers which are designed to be used by a single person at a time are known as Personal Computer (PCs). PCs are also called micro computers, because they contain a microprocessor.

:Types:-

(i) Desktop Computer:-

A desktop computer is a personal computer that fits on or under the desk. It has a monitor or another display devices, keyboards and mouse.

The main component of a desktop PC is system unit

• Desktop PCs, Horizontal:-

Horizontal oriented system unit, which usually lies flat on the top of the user's desk. Many users place their monitor on top of the system unit.

• Vertical Desktop PCs:-

Vertically oriented tower models have become the more popular style of desktop system. Many users place the vertical oriented desktop PCs under the desk.

(ii) Workstation:-

A workstation is a specialized, single user computer that typically has more power and features than a standard desktop PC.

4:- Server Computers:-

A computer used to host the computer application and services for a network is called Server Computer. Server Computers very high memory and fast computer.

Example

- Home Server
- Virtual Server

(i) Client Computer:-

The computers which is used to takes the applications and services from the main server or host computer is called client computers.

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5:- Main-Frame Computer:-

Mainframe Computers are multi-user and high performance computers. They operate a very high speed and have a large storage capacity.

They are used in banks, airliners or railways.

Example:

- IBM z Series
- A System z9
- Linux on IBM

6:- Super Computer:-

Super-computers are the fastest, powerful and most expensive machines. It is used for scientific purpose and engineering tasks.

Supercomputers have multiple processors.

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Chapter # 01.-

Word Processing:-

Word processing is the process of creating an electronic document and its manipulation.
(edit, delete, update, insert)

Word processor:-

Word processor is an application software which is designed to create, edit and print the document. It is used to make computer a useful writing tool that can be edit, store and update the document.

-: Types :-

There are many types of word processor such as:

1:- Average Student

- **MS Word :-**

MS Word is a graphical word processing program that allows the users to type and save the documents. It has advanced features which allow to format and edit the files in the best possible way.

- **Word Perfect :-**

The word perfect was originally developed at "Brigham Young University" for use on a "Data General" minicomputer in the late 1970s.

It is also a type of word processor. It is used to create and edit the documents.

- Microsoft Works :-

Microsoft Works is a discontinued software suite developed by "Microsoft" and sold from 1987 to 2009.

Its core functionality included a word processor, a spreadsheet and a DBMS.

It is also a type of word processor. It has same purpose as compare to other software.

- Apple Works :-

Apple Works was an integrated "office suite" that containing a word processor, database and spreadsheet.

It was developed by "Rupert Lissner" for Apple computer.

It was launched in 1984.

2. For Younger Students:-

- Clicker Writer:-

- Write Out Loud:-
- Kids Pix:-

Kid Pix is a drawing program design for children. It is originally created by "Craig Hickman" in 1989. It was first published in 1991.

It is used to create a drawing documents.

- Storybook Weaver:-

Storybook Weaver is a educational game originally released on Floppy disk in 1990.

Storybook Weaver Deluxe was released for Windows and Mac computers and its featured much more content.

Both version were released by MECC (Minnesota Educational Computing Corporation).

- Paint Write :-

The windows paint write allow us to draw and paint the images on our computers. It is also allow us to makes changing in an image and then save and print it.

Historical Background :-

- **Typewriter:-**

A typewriter is a mechanical or electromechanical machine used for only typing. A typewriter has an array of keys, and each one causes a different single character.

The first typewriter were introduced in 1874.

- **Wordstar:-**

Wordstar is a microcomputer word processor application that was invented by "Seymour Rubenstein" in 1987.

It is allows us to write and update documents, create test layouts.

- **Volkswriter:-**

Volkswriter is a word processor for the IBM PC written by "Camilo Wilson" and distributed by Lifetree Software.

It is allow us to create and edit the documents in the best possible way.

- **Mac Writer:-**

Mac Writer is a Word processor application released along with the first Apple Maitosh system in 1984. It has same purpose.

- **Bank Street Writer:-**

Bank Street writer is a word processor for the Apple II. It was designed in 1981.

by a team of educators at the "Bank Street College of Education" in New York city.

- EasyWriter:-

Easy writer was a word processor first written for Apple II series computer in 1979, it was published by Information Unlimited Software (IUS).

IUS released a separate application Easy Writer II completely rewritten by basic software groups.

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Semester # 01:-

Database Management System:-
(DBMS)

Database:-

A database is an organized collection of structured information or data, typically stored electronically in a computer system.

A database is usually controlled by database Management System (DBMS).

DBMS:-

DBMS stand for database Management System. DBMS are software system used to store , retrieve and run queries of data.

DBMS serves an interface between an end-user and

a database. It is allow users to create, read, update, and delete data in the database.

Example:-

MS - Access

MySQL

Oracle

MongoDB

Firebase

Types of Data Storing:-

There are three types of data storing:

- Physical Storage / Manually System.
- File based Computer System.
- Relational Database Management System.

(i) Physical / Manually ^{data} System:-

A manual database is a system for storing and managing data that is created and maintained by using manual methods, such as paper work records or spreadsheets.

(ii) File based data management System:-

A file-based data management system (also called a file system) is a type of software that allows user to access and organize small groups of data.

It is usually integrated into a computer's operating system.

It is responsible for storing and retrieving files from a storage device, such as

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hard disk and flash drive.

Netow Example:-

(i) Network File System (NFS).

(ii) Andrew File System (AFS).

(iii) New Technology File System (NTFS).

(iii) RDBMS:-

RDBMS stands for Relational database Management System.

A relational database Management System is a software which is used to create, update and manage relational database.

to two students.

Q.10 Explain different features of DBMS.

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Ans. Features of DBMS

1) Data Dictionary

Data dictionary is a file created by DBMS. It is used to store metadata or information about database, fields names and definitions of each table in the database. It contains the name, type and range of values stored in the database table. Data dictionary can monitor the data being entered to ensure that it is entered according to the rules. The

data dictionary is an integral part of the DBMS. Using data dictionary any information about data and database can be obtained. It is also used to check the authorization for each data element in the database.

2) Query Language

SQL (Structured Query Language) is a language used to insert, update, retrieve and delete any data item from the database. This is a standard language used with all relational databases. The instruction of this language is English like and easily understandable. Some important commands in SQL are INSERT, UPDATE, DELETE and SELECT etc.

3) Report Generator

Report is a read only output of data in presentable form. An important feature of DBMS is a report generator. It is a program used to create reports in different formats in the form of hard/soft copy. It is easy to use. User can give headings and customize messages on a report. Even non-technical users can generate attractive reports using this tool.

4) Utilities

DBMS utilities are the software programs used to maintain the database by processing the data, records and files. Some programs are also used for backup and recovery procedures of the databases.

5) Access Security

Most DBMS provides comprehensive security features. This facility is used to secure the data from unauthorized access. It makes the data secure and private. Only authorized users can access or modify the data. The data security is maintained by access rights like password.

6) Backup and Recovery

Almost all DBMS provides the facility of backup and recovery. An additional copy of data is called backup. When data is stored in a database there are chances of data loss or destruction by natural disasters or by some human mistakes. The best option in this situation is to create a backup copy of the data. In case of corruption of data or failure of system, data can be recovered from the backup copy.

O11. Explain the advantages and disadvantages of a Database.