

*****Basic Function of Computers(Data Processing, Data Storage, Data Movement Control)*****

There are necessary functions of computer that needs to perform by the computer itself for completing the entire task. Basically, a computer is an electronic machine, used for processing and storing, the data given by the user. There are different types of computers from micro to supercomputers.

A computer completes a given set of desired instructions is called the function of a computer. Initially, when the user provides input to the computer from the input device the input data is stored in the primary memory then later the data is moved to the CPU (Central Processing Unit). When the data is at CPU it does the following tasks-

1. It decides the form of data and the action to be taken accordingly.
2. Arithmetic and logical operations are executed by ALU.
3. When the process has finished the output or processed result is sent to the output devices in the human-readable form.

Taking data and instructions from a user, processing the data as per instructions, and displaying or storing the processed data

Basic Important functions of computer are following:-

1. Data Processing
2. Data Storage
3. Data movement control

1. Data Processing:-

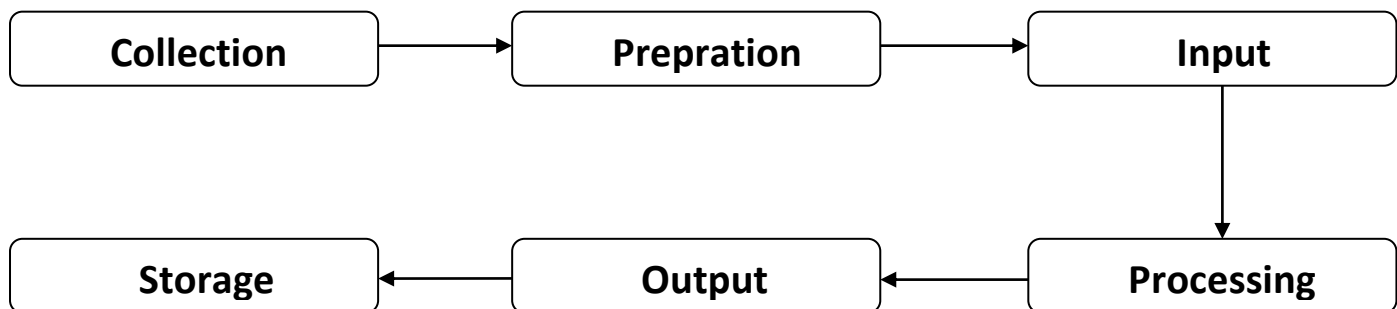
Collection, manipulation, and processing collected data for the required use is known as data processing. It is a technique normally performed by a computer; the process includes retrieving, transforming, or classification of information.

Data in its raw form is not useful to any organization. Data processing is the method of collecting raw data and translating it into usable information. It is usually performed in a step-by-step process by a team of data scientists and data engineers in an organization. The raw data is collected, filtered, sorted, processed, analyzed, stored, and then presented in a readable format.

Data processing is essential for organizations to create better business strategies and increase their competitive edge. By converting the data into readable formats like graphs, charts, and documents, employees throughout the organization can understand and use the data.

Data is a collection of facts that can include personal data, transaction data, web data, sensor data, and so on. Data processing is conversion of raw data into meaningful information through certain processes.

Data Processing Cycle:-



Collection:- The collection of raw data is the first step of the data processing cycle. . The type of raw data collected has a huge impact on the output produced. Hence, raw data should be gathered from defined and accurate sources so that the subsequent findings are valid and usable.

Preparation:- This step involves removing unwanted data by sorting and filtering the data. This is done to ensure that only the highest quality data is fed into the processing unit.

Input:- The collected data is validated and converted into machine-readable form using a keyboard, digitizer, scanner, etc.

Processing:- This step transforms the input data in to more meaningful information through the business logic implemented in software programs. Various data processing platforms are available, which have the power to enable faster and more intelligent decisions and to create better customer experiences.

Output:- This is the step where processed information is presented to the user in the form of printed reports, video, audio, or on screen. Output must provide meaningful information to guide future decisions of any organization.

Storage:- The final step of data processing is to store the data and applications for future use. Depending on the type of data, on use specific Relational Database Management Systems such as Oracle, SQL Server, MySQL, etc.

2. Data Storage:-

Data storage essentially means that files and documents are recorded digitally and saved in a storage system for future use. Storage systems may rely on electromagnetic, optical or other media to preserve and restore the data if needed. Data storage makes it easy to back up files for safekeeping and quick recovery in the event of an unexpected computing crash or cyber attack. Data storage can occur on physical hard drives, disk drives, USB drives or virtually in the cloud.

Storage devices such as flash drives and hard disks are a fundamental component of most digital devices since they allow users to preserve all kinds of information such as videos, documents, pictures and raw data.

Types of Data Storage:-

We keep the data at a safe place either physically or through the network. On the basis of this, the data storage has been divided into two categories.

1. Direct Attached Storage(DAS)
2. Network Attached Storage(NAS)

Direct Attached Storage (DAS):-

This storage is often in the immediate area and directly connected to the computing machine accessing it. Often, it's the only machine connected to it. DAS can provide decent local backup services, too, but sharing is limited. DAS devices include floppy disks, optical discs—compact discs (CDs) and digital video discs (DVDs)—hard disk drives (HDD), flash drives and solid-state drives (SSD).

Network Attached Storage (NAS):-

Network-based storage allows more than one computer to access it through a network, making it better for data sharing and collaboration. Its off-site storage capability also makes it better suited for backups and data protection. Two common network-based storage setups are network-attached storage (NAS) and storage area network (SAN).

3. Data Movement Control:-

Every computer has an input and output device that makes the computer move data between itself and outside the world. The input devices are meant for entering the data into the computer. It is the data that we need to process. The output devices are where the computer displays the produced result or the output data.

The operating environment of any computer requires both input and output peripheral devices. The computers are also capable of moving data over a longer distance

i.e., to or from a remote device. We refer to this moving of data between the remote devices as data communication.