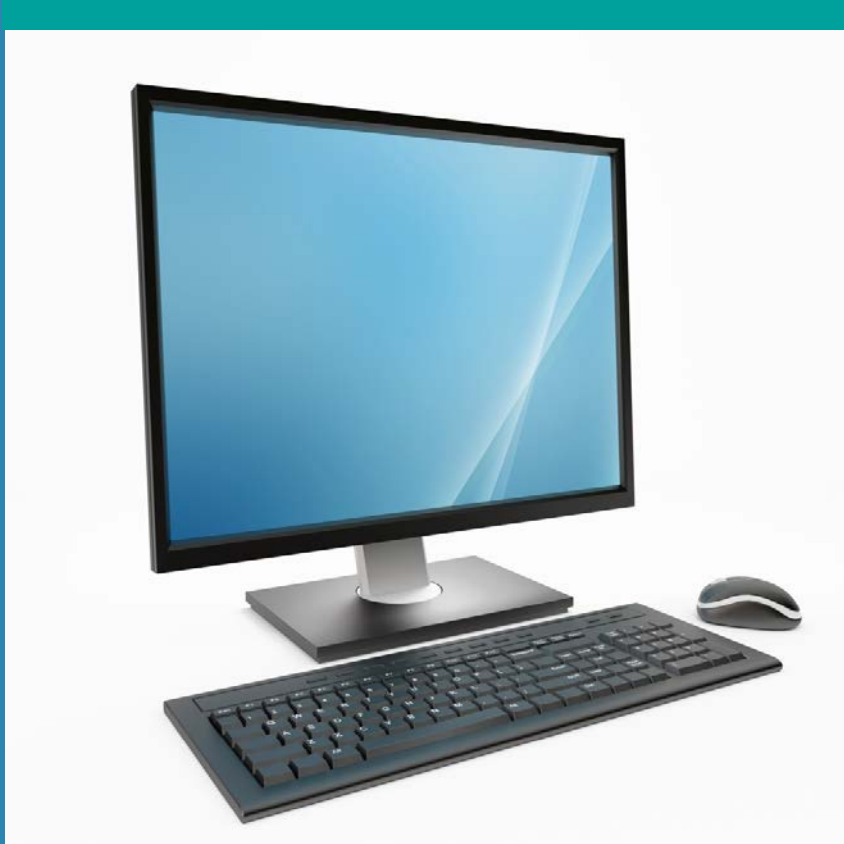




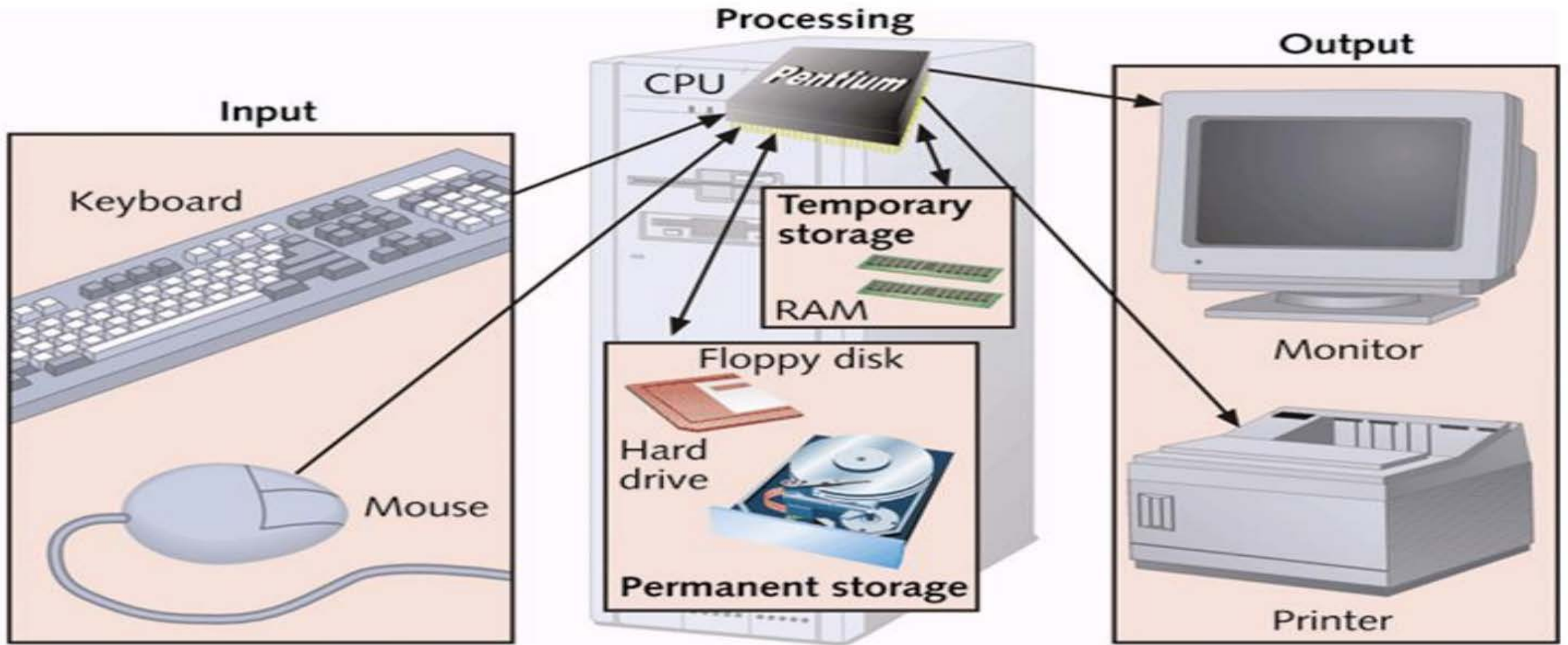
Basic Computer Science

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Computer

is an advanced electronic device that takes data as input from the user and processes it under the control of set of instructions (called program), gives the result (output), and saves it for the future use.



Computer activity consists of input, processing, storage, and output

Computer Functions

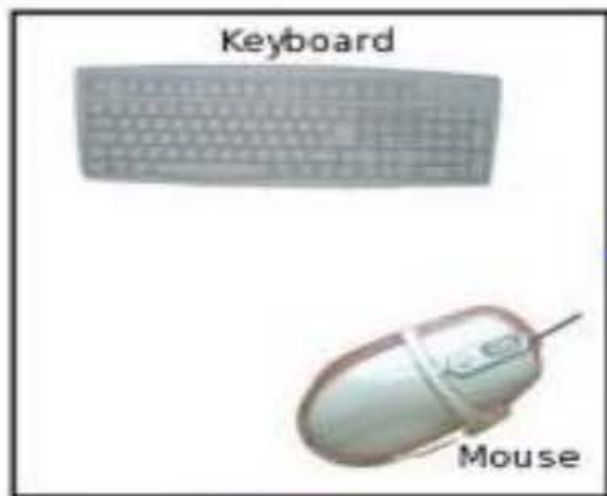
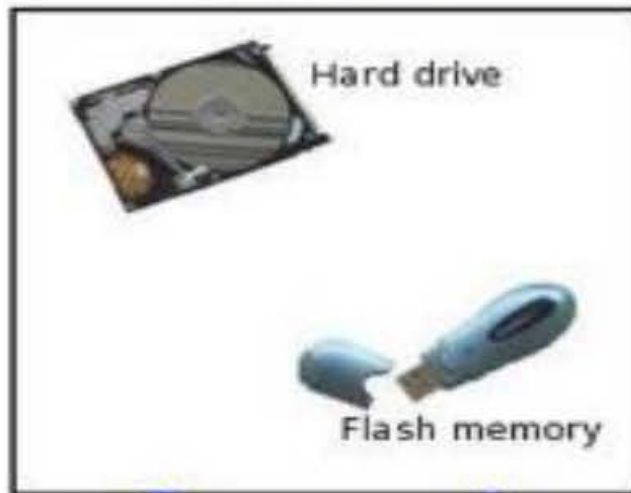
processes

1. Input: Input is the addition or entering of data into the computer. This operation can do by input units ,such as keyboard , mouse, microphone or any other unit devices.
2. Memory / Storage: is the process of permanently saving data on the computer. This process involves a hard drive of some kind. After data has been processed, it must subsequently be stored on a hard drive as opposed to simply rendered via the RAM, which is not a form of permanent storage.

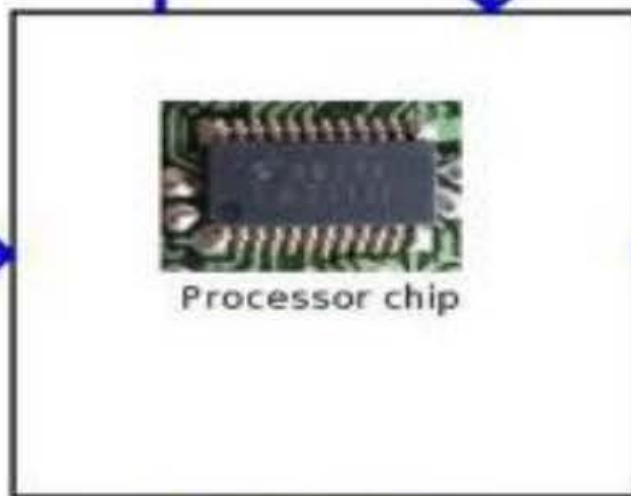
3. Processing : is the manipulation of information by the computer system. Processing uses the processor or random-access memory, otherwise known as RAM. Processing involves the computer's ability to alter data at the command of the programmer's input.

4. Output: when the computer displays data to be viewed by the programmer or other individuals. Output usually involves the monitor, printer or a form of storage media that data is copied to. Output typically involves some finished product that is separate from the computer system.

Storage



Input



Processing



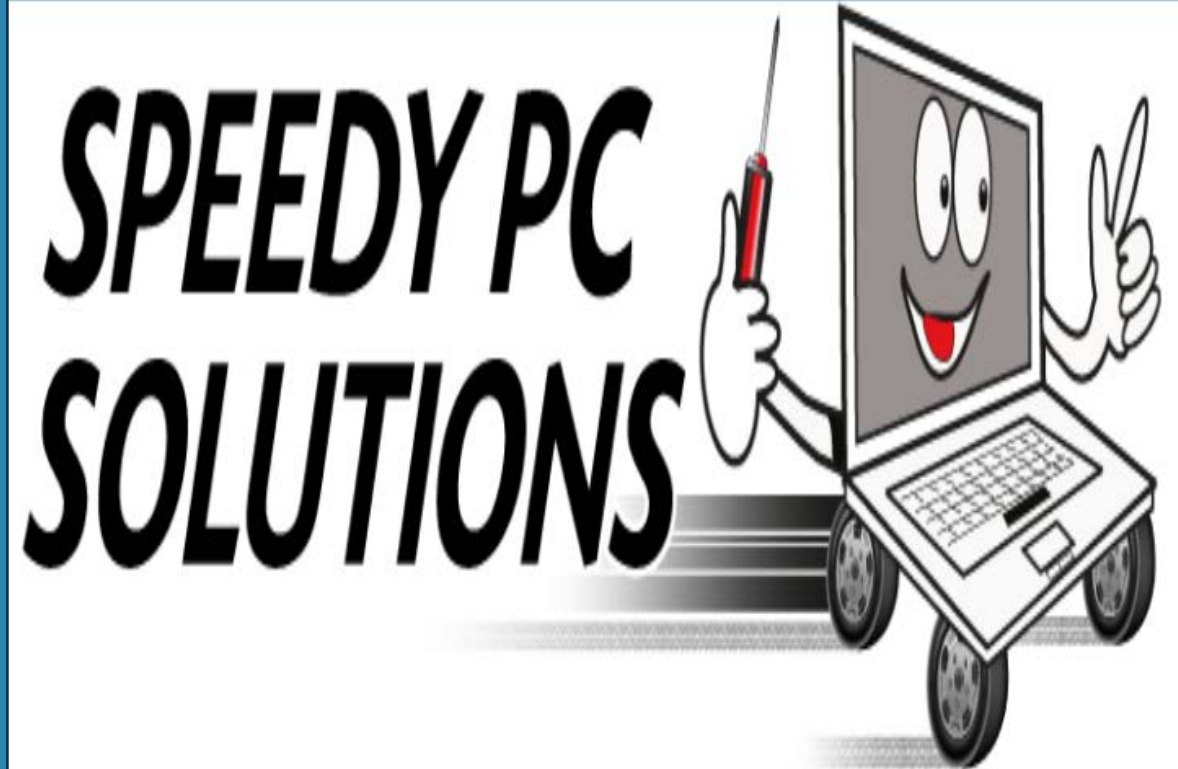
Output



Computer Advantages

1. High Speed

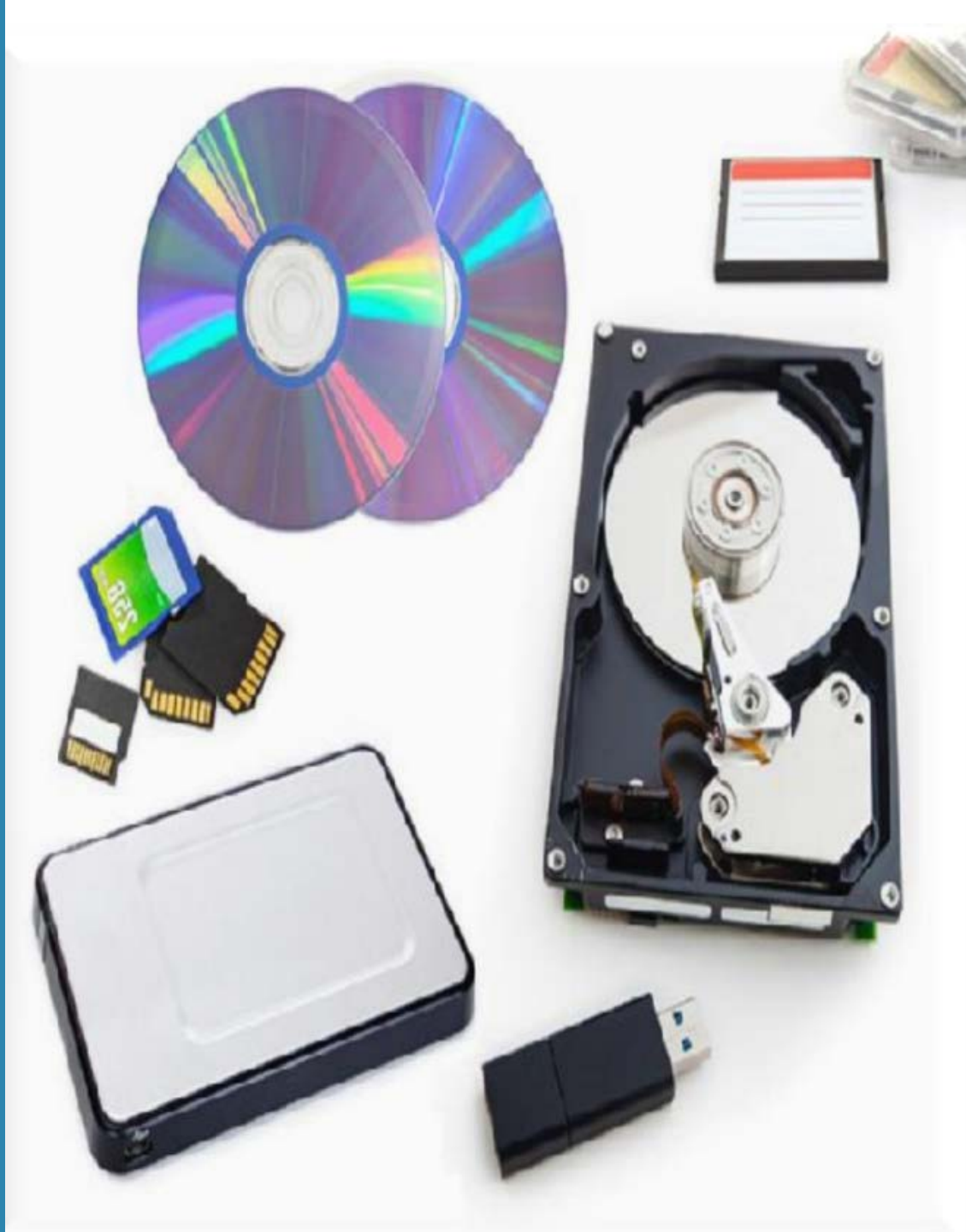
Computer is a very fast device. It can perform calculation of very large amount of data. The computer has units of speed in microsecond, nanosecond, and even the picoseconds. It can perform millions of calculations in a few seconds as compared to Human who will spend many months for doing the same task





2. Accuracy

- In addition to being very fast, computers are very accurate. The calculations are 100% error free. Computers perform all jobs with 100% accuracy provided that correct input has been given.



3. Storage Capability

Memory is a very important characteristic of computers. A computer has much more storage capacity than human beings. It can store large amount of data. It can store any type of data such as images, videos, text, audio and many others.

4. Diligence

Unlike human beings, a computer is free from tiredness and lack of concentration. It can work continue without any error and boredom. It can do repeated work with same speed and accuracy.



5. Reliability

A computer is a reliable machine. Modern electronic components have long lives. Computers are designed to make maintenance easy.



8. Reduction

The use of computers for data processing in an organization leads to reduction in paperwork and results in speeding up a process. As data in electronic files can be retrieved as and when required, the problem of maintenance of large number of paper files gets reduced.



Disadvantages of Computer

1. Number of intelligence quotient (NO. IQ)
A computer is a machine that has no intelligence to perform any task. Each instruction must be given to computer. A computer cannot take any decision on its own.
2. Dependency It functions as per a user's instruction, bso it is fully dependent on human being.

Disadvantages of Computer

3. Environment The operating environment of computer should be dust free and suitable.
4. Computers have no feelings or emotions. It cannot make judgment based on feeling, taste, experience, and knowledge unlike a human being.

Computer System Components

All the different pieces of electrical hardware that join together to make up the complete computer system.

Computer system has two main components which when both combined makes the computer system . These are :

1- Hardware

2- Software .

COMPUTER HARDWARE

LCD MONITORS



LAPTOPS



COMPLETE SYSTEM



KEYBOARDS & MOUSE



SPEAKER SYSTEMS



PC HEAD SETS



WIRELESS ROUTERS



GRAPHIC AND SOUND CARDS



WEB CAMERAS



UPS & SURGE PROTECTORS



EXTERNAL & INTERNAL HARD DRIVES



MOTHERBOARD & PROCESSORS



MEMORIES



DVD/CD-RW



INK JET, LASER, MULTI FUNCTION PRINTERS AND SCANNERS



Hardware

the physical parts of the computer system, these parts can you touch and see. A motherboard, CPU, keyboard and a monitor are all items of hardware. Hardware is useless without software to run on it.



Software

collection of instructions that can be run on the computer. These instructions tell the computer hardware what to do. Software is useless unless there is hardware to run it on.

Internal Hardware Computer Components

1- Motherboard

The motherboard is central to any computer system. Also known as the system board, the backplane, or the main board. All components plug into the motherboard either directly (straight into the circuit board) or indirectly (via USB ports). Once connected to the motherboard, the components can work together to form the computer system



2- The Central Processing Unit (CPU)

is the brain of the computer. The CPU 'controls' what the computer does and is responsible for performing calculations and data processing. It also handles the movement of data to and from system memory.



CPU itself has following three components

- Control Unit.
- ALU(Arithmetic Logic Unit).
- Registers

