

Computing Systems Devices

K-2.CS.1 Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.

3-5.CS.1 Describe how computing devices connect to other components to form a system.

A computer system is an integrated form of different components that work together to give a desirable result. It has different component and each works for a specific purpose; however, they generate a common result as required by the user.



Components of Computer System

Let us now understand the following basic components of a computer system.

- Hardware
- Software
- Humanware
- Firmware
- Bridgeware

Hardware

The physical components collectively form the hardware of a computer system. Hardware comprises of the equipment that helps in the working system of the computer.

Following are the different types of hardware components (which have specific functions)

- **Monitor** – It displays (visual) the result.
- **CPU** – It is the Central Processing Unit that controls the computer's functions and transmits data.
- **Motherboard** – It is mainly accountable to establish communication between components and transmission of information.
- **RAM** – It is the Random Access Memory and responsible for the storage of programs that are currently running and also stores data temporarily.
- **Hard Disk Drive** – It is a permanent memory storage device.
- **Floppy Disk Drive** – It is hardly being used in recent times.
- **Optical disks** – It is a device that also store data. For example, CD, DVD, etc.

Input & Output Device

The following table categorically lists down the input and output device

Input Device	Output Device
Mouse	Monitor
Keyboard	Printer
Scanner	Projector
Touchpad	Plotter
Microphone	Speaker
Camera	Earphone
Trackball	Monitor
Joystick	Monitor

Software

The hardware components can only function when software components are added to the computer system. Software is a program that performs different commands given by a user. Software is an intangible part of hardware and controls the sequence of operations.

Types of Software

Depending on the basic features and functionality, software can be categorized as

- Operating Systems (OS)
- Application Software (AS)
- E-accessibility Software

Operating System

This software helps to load the basic program automatically as soon as the computer is started. Following are the major types of operating system

Operating Software	Examples
Microsoft Windows	XP, Vista, Windows 7,8,10,11 etc.
Mac OS X	Panther, Cheetah, Snow leopard, etc.
Linux	Debian, Ubuntu, Fedora, Knoppix, etc.

Application Software

The software, which can be used on an installed operating system, is known as application software. Following are the significant examples of application software

Application Software	Examples
Office programs	Microsoft Office, OpenOffice, LibreOffice, etc.
Web browser	Internet Explorer, Mozilla Firefox, Google Chrome, Safari, ...
Antivirus Program	Norton, McAfee, Quick Heal, Avira, Kaspersky, etc.

E-accessibility Software

The E-accessibility software components additional facilities to users such as

- Voice recognition software
- Screen reader
- Magnifying tool
- On-screen keyboard
- Video games
- Learning software, etc.

Human-ware

What Does Human-ware Mean?

Human-ware is defined in IT as hardware or software that is built around user capabilities and user needs. This often involves creating a particular visual or physical interface for a given set of users.

Firmware

Firmware is a type of software that is embedded directly in a piece of hardware to make the hardware work as intended.

Bridgeware

Hardware or software that converts data or translates programs from one format into another. Bridgeware is normally supplied by a computer manufacturer when a new range of machines does not offer complete upward compatibility from some previous range.