Vidya Bhawan Balika Vidyapith Lakhisari

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Study Material

There are Four Different Computer Types

We have four different computer types classified according to their performance, power, and size. A computer is an electronic device that accepts data, processes it, stores, and then produces an output.

There are different computer types available depending on the number of users they can support at any one time, their size, and power. In this hub, we are going to have a look at the difference between supercomputers, mainframe, mini, and microcomputers.

Supercomputers

Supercomputers are Very Fast and Most Powerful

1. Supercomputers – Supercomputers are very expensive, very fast, and the most powerful

computers we have in the world.

Supercomputers are optimized to execute a few numbers of programs. This makes it possible for them to execute these few programs at a very high speed. Due to their inhibiting cost, they are used in high-end places like in scientific research centers. The supercomputer consists of thousands of processors making it clock very high speeds measured by petaflops.

These computer types are also very large in size due to the numerous parts and components involved in their design.

A good example of a Supercomputer is Tianhe-2: TH-IVB-FEP Cluster; National Super Computer Center in Guangzhou, China; 3.12 million cores (33.86 petaflops).

A Supercomputer

Amalka Supercomputing Facility

Amalka Supercomputing Facility | Source

Mainframe Computers

The Mainframe Computers

2. Mainframe computers — These are large and expensive computer types capable of supporting hundreds, or even thousands, of users simultaneously. Thus, they are mostly used by governments and large organizations for bulk data processing, critical applications, transaction processing, census, industry and consumer statistics among others. They are ranked below supercomputers.

Minicomputers

Minicomputers are Mid-Sized

3. Minicomputers — Minicomputers are mid-sized computers. In terms of size and power, minicomputers are ranked below mainframes. A minicomputer is a multiprocessing system capable

of supporting from 4 to about 200 users simultaneously.

The use of the term Minicomputer has diminished and they have merged with servers.

A Note About How Users Connect to the Mainframe or Minicomputers

Users connects to the mainframe or minicomputers using dumb terminal – a keyboard and monitor. A dumb terminal is simply an output device that accepts data from the CPU. In contrast, a smart terminal is a monitor that has its own processor for special features, such as bold and blinking characters. Dumb terminals are not as fast as smart terminals, and they do not support as many display features, but they are adequate for most applications.

Microcomputer

Microcomputers or the Personal Computers

4. Microcomputers or Personal computers – A

personal computer is a computer designed to be used by one user at a time. The term microcomputer relates to the microprocessor which is used with a personal computer for the purpose of processing data and instruction codes. These are the most common computer types since they are not very expensive.

Microcomputers Are Classified as Desktop and Portable (Mobile) Computers

The Desktop Computers

Desktop computers are not built to be mobile. They are moved, but only to a new desktop location and with the power supply inactive. There are a number of major differences between computers that are intended to be used in one place as a desktop and portables or mobiles that can be easily moved from one location to another.

Desktop computers are large and heavy in comparison to portables. They can be carried in

specially manufactured cases, but only to assist a support engineer in moving, not as a frequent procedure. The monitor, keyboard, and mouse are all separate items on a desktop.

Desktop computer components and devices, although quite resilient to movement while active are not made to be constantly moved, even less so when they are operational. A mains power supply is mandatory, as desktop computers cannot work without a constant supply of electrical power.

The desktops can further be subdivided depending on the casing type, tower casing, and desktop casing.