Computer Applications

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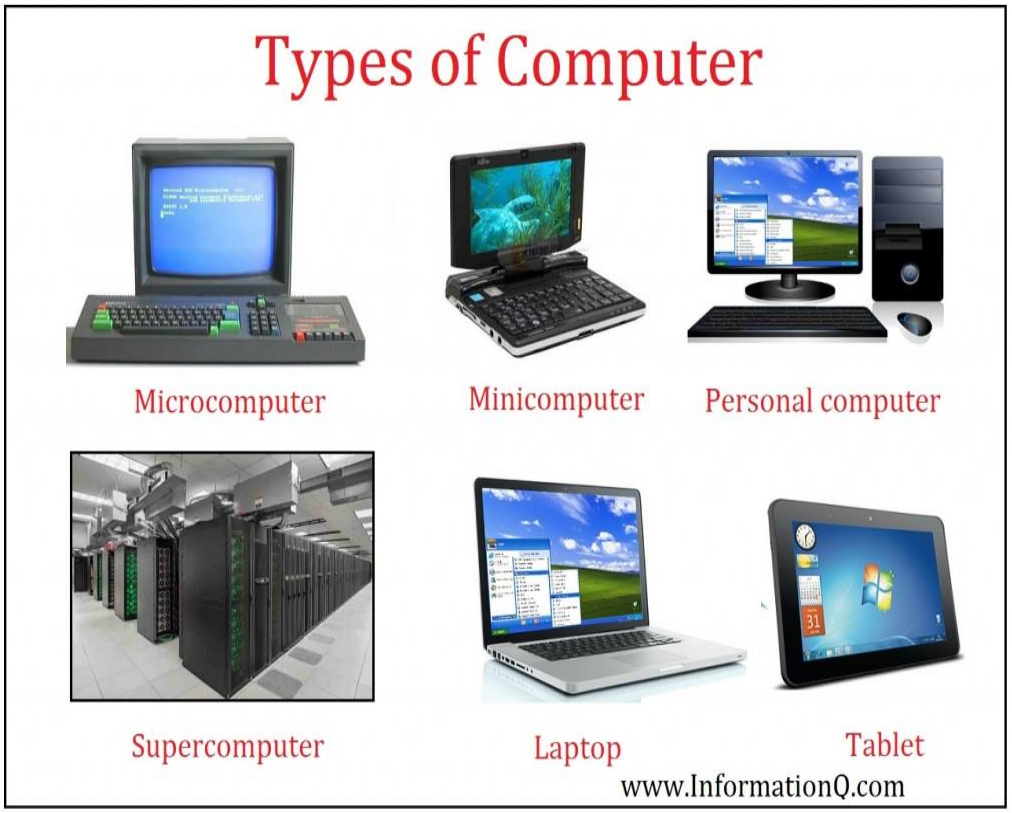
Types of computer

- Mainframes
- desktop
- Tablets
- Laptop
- smart phones



Types of Computers

- Supercomputers...are used to process very large amounts of information including processing information to predict storms, satellite images and navigation, and process military war scenarios.
- Mainframes...are used by government and businesses to process very large amounts of information.
- Mini-Computers...are similar to mainframes...they are used by business and government to process large amounts of information.
- Personal Computers (PC)…

Types of Computers

- Personal Computers (Continued)

  Personal Computers...also known as PC's...are smaller and less powerful than the others. They are used in homes, schools, and small businesses.

Types of Computers

There are 3 main types of PCs

- Desktop

  It is a microprocessor based single user, computer. Peripherals for PC include mouse and keyboard as input, monitor to display information and a hard disk for storage.

- Portable (Notebook/Laptop)

  When portable (notebook/laptop) computers were first created they were HUGE. The creators of the portable (notebook/laptop) computer dreamed that one day it would be the size a notebook or pocket dictionary. With today's technology, we have been able to accomplish this goal and more..

- Hand-Held

E.G IBM PCs, APPLE MAC

Networks

- A network is a group of computers that share information and hardware.
- The computers are connected together using copper phone wires, fiber optic cables, or radio waves.
- Our computers are on a network here at university...Look under the table and see the blue wires that connect your computer to the network.
- The internet is many networks around the world that are all connected together to make 1 huge network.

Computer Generations

- There are five generations of computer:
- **First generation**–1946 -1958
- **Second generation**–1959 -1964
- **Third generation**–1965 -1970
- **Fourth generation**–1971 -today
- **Fifth generation**–Today to future

The First Generation

- The first computers used **vacuum tubes** for circuitry and **magnetic drums** for memory, and were often enormous, taking up entire rooms.
- They were very expensive to operate and in addition to using a great deal of electricity, generated a lot of heat, which was often the cause of malfunctions.

Cont.…

- First generation computers relied on machine language, the lowest-level programming language understood by computers, to perform operations, and they could only solve one problem at a time.
- Input was based on punched cards and paper tape, and output was displayed on printouts.

The Second Generation

- Transistors replaced vacuum tubes in the second generation of computers.
- One transistor replaced the equivalent of **40 vacuum tubes**.
- Allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable.
- Still generated a great deal of heat that can damage the computer.

Cont.…

- Second-generation computers moved from cryptic binary machine language to symbolic, or assembly, languages, which allowed programmers to specify instructions in words.
- Second-generation computers still relied on punched cards for input and printouts for output.
- These were also the first computers that stored their instructions in their memory.

The Third Generation

- The development of the **integrated circuit** was the hallmark of the third generation of computers.
- Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficiency of computers.
- Much smaller and cheaper compare to the second generation computers.
- It could carry out instructions in billionths of a second.

Cont.…

- Users interacted with third generation computers through keyboards and monitors and interfaced with an operating system, which allowed the device to run many different applications at one time with a central program that monitored the memory.
- Computers for the first time became accessible to a mass audience because they were smaller and cheaper than their predecessors.

The Fourth Generation

- The **microprocessor** brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip.
- As these small computers became more powerful, they could be linked together to form networks, which eventually led to the development of the Internet.
- Fourth generation computers also saw the development of GUIs, the mouse and handheld devices.

The Fifth Generation

- Based on Artificial Intelligence (AI).
- Still in development.
- The use of parallel processing is helping to make artificial intelligence a reality.
- The goal is to develop devices that respond to natural language input and are capable of learning and self-organization.
- There are some applications, such as voice recognition, that are being used today.