

1.1 What is a Computer?

A computer is a device that manipulates data according to a set of instructions (a program). A computer can use many programs to carry out a wide range of useful tasks.

A computer consists of two main elements: **hardware** and **software**.

- **Hardware:**

- Pieces of equipment that make up a computer system.
- These are the parts you can touch (although many parts are contained within the computer's case).
- Other parts/devices are connected to the computer (usually by leads/connectors).
- These devices usually allow information (or **data**) to be entered (**input**) and retrieved (**output**).

- **Software:**

- The instructions that a computer follows (from **computer programs** / **applications**).
- Operating systems, office programs and games are examples of software.
- Software governs when and how various pieces of hardware can be put to a variety of uses.

1.2 Types of computer.

There are many types of computer that are used for a variety of different needs.

- **Mainframe**

A **mainframe** is a large and powerful computer that is capable of serving a vast number of users at the same time. Users do not sit down in front of the mainframe itself, they connect to it using another smaller computer (or a **dumb terminal**). The terminal consists simply of a keyboard and screen to enter and display information. The terminal does not process or store any data itself.

Mainframes need to process and store information for many different users. Therefore they require much more processing power and storage capacity than other computers (they are generally faster and have more memory) and hence can be very expensive.