

## ➤ Basic features of digital system

The term **digital system** refers to elements such as hardware, software and networks and their use. There may be many different components that make up one **system**; for example, a computer has a central processing unit, a hard disk, keyboard, mouse, screen etc

**Digital systems** contain devices such as logic gates, flip-flops, shift registers and counters. A computer is an **example of a digital system**. A **digital** meter can display many values, but not every value within its range.

## ➤ Computer architecture

**Computer architecture** refers to those attributes of a system visible to a programmer, or put another way, those attributes that have a direct impact on the logical execution of a program. **Computer organization** refers to the operational units and their interconnection that realize the **architecture** specification

There are four main equipment functions of a computer system: **Input, Processing, Storage** and **Output**.

## Computer Architecture & Organization

**Architecture** → attributes visible to the programmer

- Instruction set, number of bits used for data representation, I/O mechanisms, addressing techniques, etc.
- e.g. Is there a multiply instruction?

**Organization** → how features are implemented

- Control signals, interfaces, memory technology, etc.
- e.g. Is there a hardware multiply unit or is it done by repeated addition?

hmmm ...  
chicken/egg  
problem ?

