**Bit**

* Single on/off value

**Discrete**

* It has a fixed number of definite states
* Can be called **digital**

Advantages to binary

1. Simple and easy to build
2. Unambiguous signals
3. Flawless copies can be made
4. Anything that can be represented with some sort of pattern can be represented with patterns of bits

**Analog signal**

* Can continuously change in value
* Exact value at any time is important

**Flawless copies can be made:**

The receiving end of the signal is only interested in the binary values. All it has to do is check if the signal is above or below the threshold. This can be done perfectly (as long as the noise is not too great).

Processor chips often described in terms of clock speed

**Hrtz**

* Value in which clock speed is measured
* One hertz is one clock tick per second

**MHz**

* means **mega Hertz**
* a million clock ticks per second

**GHz**

* means **giga Hertz**
* a billion (or one thousand million) clocks ticks per second

**Important Point:**

All that computer memory holds is bit patterns. What those bit patterns represent depends on how they are used.