

## DATA REPRESENTATION

The data which is in the form of text, picture, numbers, graphics etc. All the information can be stored in a computer by its own understandable language i.e. in a sequence of Zero's (0's) and Ones (1's)

\*Computer memory is stored as bits (0 or 1)

1 bit = the value of 0 or 1

8 bits = 1 byte

1024 bytes = 1 kilo byte (KB)

1024 KB = 1 Mega Byte (MB)

1024 MB = 1 Giga Byte (GB)

1024 GB = 1 Tera Byte (TB)

1024 TB = 1 Peta Byte (PB)

**Bit:** It is a basic information used in computing communications. It is the building block for the number, languages and almost data storing aspects will work by using bits only it is an irreducible value.

**Byte:** Byte is the digital information consists of 8 bits. Numbers of bits used to encode a single character of text. This is the main reason why 'BYTE' is called as the smallest addressable unit

**Kilo Byte:** Generally Kilo defined as 1000 i.e.  $10^3$  but we define kilobyte as 1024 bytes. Why because particularly in reference to digital memory capacity of specified spaces of information technology. Here 1024 bytes i.e.  $2^{10}$  bytes. It arises from the power of 2 sizing common to memory circuit design.

**Megabyte:** I think mega is  $10^6$  but where as in computers of digital information 1 MB is 1024 KB

1MB is 1024 KB =  $2^{10}$  Bytes

1048576 Bytes =  $2^{20}$  bits

i.e. megabytes is one million bytes of information

**Gigabyte:** Where Giga means  $10^9$  but in information technology filed 1GB= 1024 MB

1 GB= 1073741824 =>  $2^{30}$  Bytes

It may used in most storage media particularly hard devices and flash based storage, DVDs and Networking contexts.

**Terabyte:** It is also a multiple of unit byte for digital information. The Prefix 'Tera' represents  $10^{12}$  and where as in the field information technology 1 TB= 1024 GB i.e. One trillion bytes or  $10^{12}$  bytes

1TB=1024 TB

=  $10^{12}$  bytes =>  $2^{50}$  = 1125899906842624 bytes)

(One thousands petabytes) 1000 PB =1 EB (Exabyte)



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