

Computer Memory Units Explained

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BINARY MEMORY

MEMORY – Memory is a data storage device in a computer system. The data is stored in binary form (0 to 1)

The computer data is made up of certain components basically called bits and bytes.

Basic components which constitute the data structures are explained as follows:

BIT – It is the most basic information unit used in computing and formation theory.

A single bit is 1 or 0, a true or false or a 'flag' which is on or off (use to distinguish two mutually exclusive states from each other)

NIBBLE – A nibble is the computing term for the aggregation of four bits or half an octet (an octet being an 8-bit byte)

A Nibble contains four bits.

BYTE – A byte is a collection of 8 bits. Eight-bit bytes also known as Octets, which can represent 256 values.

WORD – A word is a string of bits stored in computer memory.

==>> Read - [Computer Memory Types](#)



MEMORY MEASUREMENT-

Memory or any storage device's capacity is expressed as a quantity of bits or bytes.

The units of memory measurements are discussed below:

Kilobyte – A kilobyte is unit information or computer storage equal to 1024 bytes. It is commonly abbreviated as KB.

Megabyte – A megabyte is unit of information or computer storage equal to 1024 kilobytes. It is commonly abbreviated as MB.

Gigabyte – A gigabyte is unit of information or computer storage equal to 1024 megabytes. It

Terabyte – A terabyte is unit of information or computer storage equal to 1024 gigabytes. It is commonly abbreviated as TB.

Petabyte – A Petabyte is unit of information or computer storage equal to 1024 Terabytes. It is commonly abbreviated as PB.

Exabyte – An Exabyte is unit of information or computer storage equal to 1024 Petabytes. It is commonly abbreviated as EB.

Zettabyte – A Zettabyte is unit of information or computer storage equal to 1024 Exabytes. It is commonly abbreviated as ZB.

Yottabyte – A Yottabyte is unit of information or computer storage equal to 1024 Zettabytes. It is commonly abbreviated as YB.

Memory Measurement shown in Tabular Form :-

4 Bits	1 Nibble	-
8 Bits	1 Byte	1
1024 Bytes	KB	2^{10} bytes
1024 KB	1 MB	2^{20} bytes
1024 MB	1 GB	2^{30} bytes
1024 GB	1 TB	2^{40} bytes
1024 TB	1 PB	2^{50} bytes
1024 PB	1 EB	2^{60} bytes
1024 EB	1 ZB	2^{70} bytes
1024 ZB	1 YB	2^{80} bytes

Table showing Units and their Size :-

UNIT	SIZE
Bit	One binary digit (either 1 or 0)
Byte	Eight bits
Word	16 to 64 bits
Kilobyte	1 thousand byte
Megabyte	1 million bytes
Gigabyte	1 billion bytes
Terabyte	1 trillion bytes
Petabyte	1 quadrillion bytes