UNITS OF STORAGE IN COMPUTER

The most common unit of storage in computer is called a byte which is equal to 8 bits. A computer memory is made up of millions of bytes. All data and information fed into a computer, as well as the program that comes pre-loaded are stored in form of bytes.

Each byte resides temporary on the computer memory and this specific location is called an address.

Different computer have different size of memory. The size of a computer memory is stated by manufacturer in terms of byte.

1,024 byte make a kilobyte (KB)

1 megabyte (MB) is equal to 1,024 kilobytes, or approximately one million bytes

1 gigabytes (GB) is equal to 1, 024 megabytes

In order to make calculations and definition of memory size easier, 1.024 bytes are often rounded off to 1000 bytes. Thus, user will often state that 1 KB is equal to 1000 bytes.

BINARY DIGIT (BITS)

The smallest unit in computer processing is called a bit. It is a unit of data that can be either of two conditions 0-1. Group of bits makes up storage units in the computer called character, bytes, or word, which are manipulated as group. A bit is the basic unit of information in computing and data transmission; a bit can have only the value of either one or zero, which may be implemented in a variety of systems by means of a two-state device. An example of such a device in electronics can be a flip-flop, a logic gate or a relay (in relay logic). The two values can also be interpreted as logical values (true/false, yes/no), activation states (on/off), or any other two-valued attribute.

NIBBLE

Haft a byte is called a nibble. A nibble is a collection of bits on a 4 bit boundary. A nibble (also called nybble or nyble) is a four-bit aggregation, i.e. half of an octet. There are sixteen ($2^4=16$) possible values of a nibble, therefore it corresponds to a single hexadecimal digit.

WORD LENGTH

A computer word is a group of a fixed number of bytes which varies from computer to computer but is fixed for each computer. The length of a computer word is called word length, which is in the range of 1 byte to 64 bytes. It implies the number of its which can be handled like a single operation. A word is the natural unit of data used by a particular processor design. A word can be considered as a fixed-size group of bits that are handled as a unit by the instruction set and the processor hardware. The number of bits in a word (also called word width, word size, or word length) is an important characteristic of specific processor design or computer architecture, which is often described as n-bit architecture where n is usually equal to 8, 16, 32 or 64.

BLOCK

In data transmission and data storage, a block is a sequence of bytes or bits, having a nominal length (a block size). Putting data into blocks (blocking) blocking is used to speed up the handling of the data-stream by the communication equipment. Blocked data is normally read a whole block at a time.

CHARACTER

A character is a unit of information that roughly corresponds to a smallest unit in a written language, that is, a symbol, such as in an alphabet letter, or a digit, or a punctuation mark. A character can be represented with one (ASCII) or several (Unicode) bytes.

REPRESENTING CHARACTERS IN THE MEMORY

BYTE: A byte is the basic unit in the computer memory. One bytes is one character. A character can be a number, letter, or symbol. One byte consist of eight bits (binary digits). A byte is the basic unit in the computer memory. One bytes is one character. A character can be a number, letter, or symbol. One byte consist of eight bits (binary digits). A byte is a unit of digital information in computing and data transmission that most commonly consists of eight bits. The de facto standard of eight bits is a convenient power of two (2^8) permitting the values 0 through 255 for one byte.

KILOBYTE (KB): One kilobytes is 1.024. This approximately equal to a character in one page of a text of a book. A kilobyte (kB) is a decimal multiple of the unit byte for digital information or computer storage. The prefix kilo (symbol k) is defined in the International System of Units (SI) as a multiplier of 10^3, therefore, 1 kilobyte = 10^3 bytes = 1000 bytes. At the same time, traditionally this metric prefix is used to designate binary multiplier 2^{10} = 1024, so 1 Kbyte = 1024 bytes (note the capital K).

MEGABYTE (MB): One megabyte is 1,048,576 characters. This is approximately equal to all the character in one book. A megabyte (MB or Mbyte) is a decimal multiple of the unit byte for digital information or computer storage. The prefix mega (symbol M) is defined in the International System of Units (SI) as a multiplier of 10^6, therefore, 1 megabyte = 10^6 bytes = 1,000,000 bytes. At the same time, traditionally this metric prefix is used to designate binary multiplier 2^{20}, so 1 MB = 1024 Kbytes (note the capital K)

GIGABYTE: One gigabyte is 1,073,741,824 characters. This is approximately equal to all the character in a pile of books. A gigabyte (GB or Gbyte) is a decimal multiple of the unit byte for digital information or computer storage. The prefix giga (symbol G) is defined in the International System of Units (SI) as a multiplier of 10^9, therefore, 1 gigabyte = 10^9 bytes = 1,000,000,000 bytes. At the same time, traditionally this metric prefix is used to designate binary multiplier 2^{30}, so 1 GB = 1024 Mbytes.

TERABYTE: One terabyte is 1,099,511,627,776 characters. This is approximately equal to all the character in all the books on a book stand. A terabyte (TB or Tbyte) is a decimal multiple of the unit byte for digital information or computer storage. The prefix tera (symbol T) is defined in the International System of Units (SI) as a multiplier of 10^{12}, therefore, 1 terabyte = 10^{12} bytes. At the same time, traditionally this metric prefix is used to designate binary multiplier 2^{40}, so 1 Tbyte = 1024 Gbytes.