ICT 1 & 2

CARRY OUT MENSURATION & CALCULATION

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- Computer use binary codes to represent and interpret letters, numbers and special characters with bits
- Commonly used code with American Standard Code for Information Interchange.

- Each character is represented by string of bits

example:

CAPITAL LETTER - A	0100 0001
NUMBER 9	0000 1001
Special character - #	0010 0011

Calculating Data Storage

Data capacity

- the amount of data (information) that can be stored in a tag.

- Increased data capacity increases the usefulness of the tag and its cost.

Cache Memory

- A piece of temporary memory. It can refer to a part of the RAM, storage disk, CPU, or an area for storing web pages.

Calculating Data Storage

- Refers to the basic unit of digital storage

Terms use for storage space :

- B - Bytes
- GB - Gigabytes
- KB - Kilobytes
- MB - Megabytes
- TB - Terabytes

BITS

- **Group BIT in 8-BIT cluster - BYTES**

- Smallest unit of measurements used to quantify of computer data.
- smallest representation of data
- Single BIT can be defined Boolen value of True (1) or False (0)
- Individual bit has little other use

BYTES

- **Unit of digital information that most commonly consist of 8-bits.**

- the byte is the number of bits used to encode a single character in a computer
- it is the smallest addressable unit in memory in many computer architectures

KILOBYTES

- 1 KB = 1000 BYTES
- 1000000 bytes = 1 mb
- 1MB = 1000 KB

- smallest unit of measurement greater than byte
- it precede to megabyte

MEGABYTES

- 1 KB = 1000 BYTES
- 1000000 bytes = 1 mb
- 1MB = 1000 KB

- a multiple unit byte for digital information.
- commonly used to measure either 1000 bytes or 2^{10} bit

GIGABYTES

- 1 KB = 1000 BYTES
- 1000000 bytes = 1 mb
- 1MB = 1000 KB
- 1 GB = 1000MB

- Data storage capacity for computer data and memory equal to about one billion bytes.
- Ex: 200 songs on an MP3 player is equivalent of 1gb

TERABYTES

- 1 KB = 1000 BYTES
- 1000000 bytes = 1 mb
- 1MB = 1000 KB
- 1 GB = 1000MB
- 1 TB = 1000GB

- for data storage, systems are often measured in TB.
- BUT most files seen on daily basis are stored in gigabytes or MB

File type	Typical size	Quantity a 1 gigabyte USB memory stick could hold
Word processed document	50 kilobytes	1 gigabyte = 1,000 megabytes, 1000 megabytes = 1,000,000 kilobytes, 1,000,000 / 50 = 20,000 word processed files
Image file	100 kilobytes	1 gigabyte = 1,000 megabytes, 1000 megabytes = 1,000,000 kilobytes, 1,000,000 / 100 = 10,000 image files
Video file	100 megabytes	1 gigabyte = 1,000 megabytes, 1,000 / 100 = 10 video files