SIZE OF DATA

- Binary bit is the smallest unit of data storage
- All data consists of bits – 1s and 0s
- 4 bits(b) equals 1 Nibble
- 8 bits(b) equals 1 byte(B). Note, 8 b = 1 B
- After byte, every unit size will increase 1000 times

Unit	Symbol	Decimal prefix	Size	Binary prefix	Size
kilobyte	KB	10^3 bytes	1,000 bytes	2^{10} bytes	1,024 bytes
megabyte	MB	10^6 bytes	1,000 kilobytes	2^{20} bytes	1,024 kilobytes
gigabyte	GB	10^9 bytes	1,000 megabytes	2^{30} bytes	1,024 megabytes
terabyte	TB	10^{12} bytes	1,000 gigabytes	2^{40} bytes	1,024 gigabytes

SIZE OF DATA

- There are two systems which are SI and IEC
- SI system
  - Base 10 system
  - 1KB = 1,000 = 10^3

Unit	Symbol	Decimal prefix	Size
kilobyte	KB	10^3 bytes	1,000 bytes
megabyte	MB	10^6 bytes	1,000 kilobytes
gigabyte	GB	10^9 bytes	1,000 megabytes
terabyte	TB	10^{12} bytes	1,000 gigabytes

SIZE OF DATA

- IEC system
  - Base 2 system
  - 1KiB = 1024 = 2^{10}

BINARY SYSTEM

NAME	FACTOR	VALUE IN BYTES
kibibyte (KiB)	2^{10}	1,024
mebibyte (MiB)	2^{20}	1,048,576
gibibyte (GiB)	2^{30}	1,073,741,824
tebibyte (TiB)	2^{40}	1,099,511,627,776
pebibyte (PiB)	2^{50}	1,125,899,906,842,624
exbibyte (EiB)	2^{60}	1,152,921,504,606,846,976
zebibyte (ZiB)	2^{70}	1,180,591,620,717,411,303,424
yobibyte (YiB)	2^{80}	1,208,925,819,614,629,174,706,176

SIZE OF DATA

- Convert 2 TiB to:
- GiB
- MiB
- KiB
- B
- b

SIZE OF DATA

- One photo taken from an iPhone take up 5 MiB. If 100 photos would be taken, how much capacity of the memory would it take in GiB and b?

SIZE OF DATA

- A movie file 700 MB is needed to upload to a server with the upload speed of 1000 Mbps. How long does it take to upload in minutes?