DATA

Represents quantities, values, or symbols on which operations are performed by the computer

Can be stored on optical or magnetic media and transmitted via digital electrical signals

BINARY

At the lowest level, data is represented by **binary values**

0 1

A bit is a unit pertaining to a **single binary value** that can either be 0 or 1

one bit

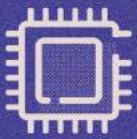
10010011

one byte

A byte unit of data composed of a sequence of 8 bits (ex. 10111010)

10111010 10111010 data 10111010 10111010

Bytes are the building blocks of data



NUMBER

Basic mathematical operations could be performed on them (addition, subtraction, multiplication, division, power, root)

INTEGERS

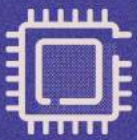
0, -1, 5, 124 ETC

Whole numbers

FLOATING POINT

3.14, 1.21, 5.0 ETC

Decimal or fractional values



STRINGS

"I LOVE DICTIONARIES!"

Typical plain-text that is defined to be a **sequence of characters**

DICTIONARY

10 characters
11 bytes

[00]	[01]	[02]	[03]	[04]	[05]	[06]	[07]	[08]	[09]	[10]
D	I	C	T	I	O	N	A	R	Y	\0

In programming languages like C, the size is equivalent to the length of the string, including the terminating character.

"HELLO, WORLD"

"Hello, world" is a string of 12 characters, so it is 13 bytes in size.

BOOLEAN

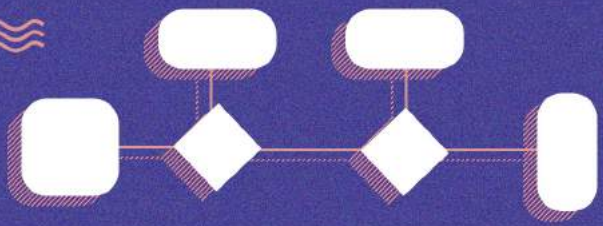
TRUE

FALSE

Value could either be **true or false**

AND	**conjunction**
OR	**disjunction**
NOT	**negation/complement**

Boolean algebra could be performed on them (and, or, not)



Used in conditional statements and shifting control flow