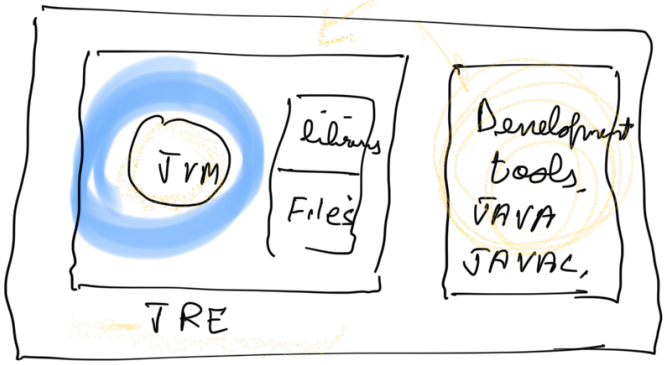
JAVA



JDK

JRE
↳ Java Runtime Env.

Java Development kit

JVM - Java Virtual Machine

Print

1. System.out.print("Hello World");

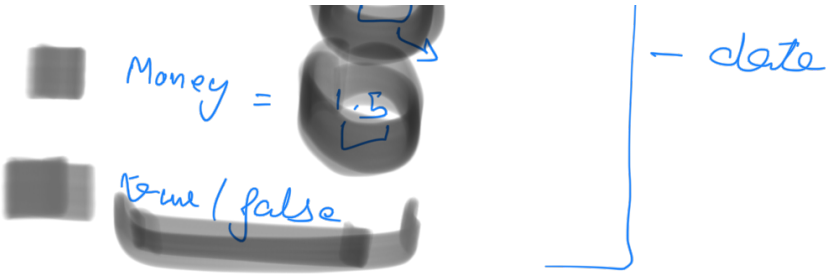
"Hello World"
↳ Comment

2. System.out.println("Hello World");

DATA TYPES

Name = "Tanmay"

Age = 24



Data Types

- Primitive
  - byte
  - short
  - int
  - long → Integer
  - float
  - double → Decimal / Float
  - Char → Character 'a', 'b', ...
  - boolean → true / false
- Non Primitive

Integer

→ byte → 1 byte in memory
↳ 8 bits

$2^8 = 256$

Range

→ -128 to 127

0

-128 to 127 (128)

byte a = 128;

Short Memory = 2 bytes = 16 bit

Range = -2^{15} to $2^{15}-1$

int ⇒ 4 bytes ⇒ 2^{32}

Range ⇒ -2^{31} to $2^{31}-1$

long ⇒ 8 bytes ⇒ 2^{64} 8 bytes × 8b

data type → integer → n bytes

2^{8n}

-2^{8n-1} to $2^{8n-1}-1$

	Size (bytes)	Range
byte	1	-2^7 to 2^7-1 ⇒ -128 to 12
short	2	-2^{15} to $2^{15}-1$
int	4	-2^{31} to $2^{31}-1$
long	8	-2^{63} to $2^{63}-1$

$2^{31} = 2147483648$

1000

byte → -128 to 127

2

Decimal

float → 4 byte = 0.1f] 0.0

double → 8 bytes = 0.1d] 0.0

Char 2 bytes $\boxed{2^{16}}$ 0 to $2^{16}-1$, 0

0

6 5000

ASCII

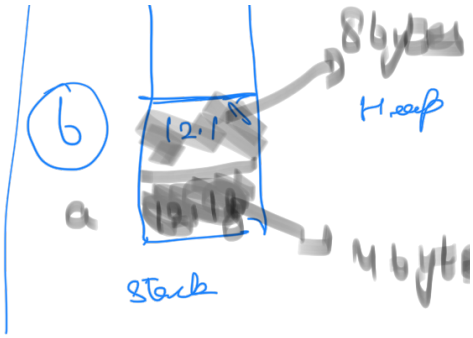
'a', 'b', 'c', 'd', 'e' 2'

↳ 97+26 '*', '+', '-', '/', '$'

A → 65

boolean true / false 0, 1 false

↳

→ float a = 12.1f;

double b = 12.1