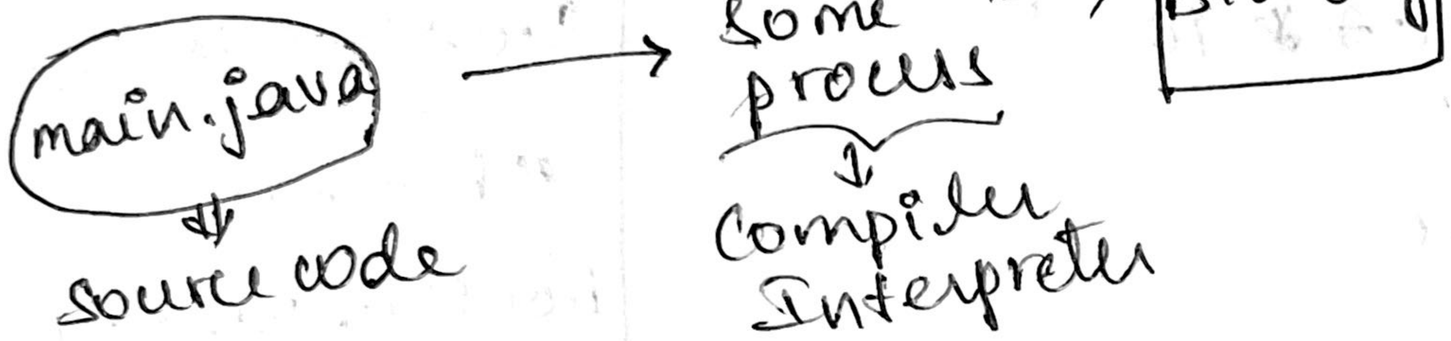
Day-2

Introduction to Java



1) Java is case sensitive language

```
class ClassA {
    public static void main (String[] args) {
        System.out.println ("Hello!");
    }
}
```

// variables

```
int age; // declared
age = 24; // initialised
System.out.println (age); // print 24
age = 25;
System.out.println (age); // print 25
```

we can declare & initialize value at same time

```
// int age = 3;
```

int age; ⇒ declaration
↓ ↘
datatype variable name
age = 24; ⇒ Initialisation
(multiple times)

Different types of variables:

1) Integer ⇒ int var_name;
range → -2^{31} to $2^{31}-1$
($-2*10^9$ to 2×10^9)
4 bytes → 32 bits
1 byte = 8 bits

2) short ⇒ short var_name;
-2^{15} to $2^{15}-1$
(-32000 to 32000 2 bytes

Decimal numbers ⇒

1) float
$1.4*10^{-45}$ to 3.4×10^{38}
4 bytes

2) double
$4.9*10^{-324}$ to $1.7*10^{308}$

boolean ⇒ true or false
↙ ↘
0 1

typeconversion
1) Implicit → happens automatically
2) Explicit

3) long integer ⇒
long var_name;
-2^{63} to $2^{63}-1$
8 bytes

```
long sample_long_num=1000000L;
System.out.println(sample_
        long_num);

//decimal number
double dec_num_1 = 51.4;
S.o.pln(dec_num_1);

//decimal numbers
float dec_num_2 = 51.4f;
S.o.pln(dec_num_2);

// boolean
boolean val = true;
S.o.pln(val);

//character
char char_var = '$';
S.o.pln(char_var);

long var1 = 15;
int var2 = 30;
var1 = var2;
S.o.pln(var1);

int sec_var1 = 15;
long sec_var2 = 30;
sec_var1 = (int) sec_var2;
S.o.pln(sec_var2);
```

Operators

1) Arithmetic operators +, -, *, %

int / int ⇒ int

int / double (or) double / int (or) double / double

↘ double

2) Relational operators

>=, <=, ~~<, >~~ !=, <, >, ==

3) logical operators

&&, ||, !

4) Unary operators

a++, a--

preincrement postincrement

predecrement postdecrement

```
Scanner sc = new Scanner (System.in);
int N = sc.nextInt();
```