

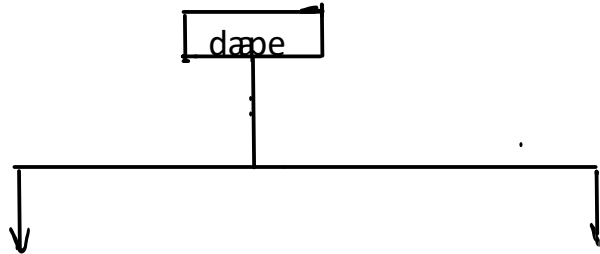
DAY6

# DATATYPES

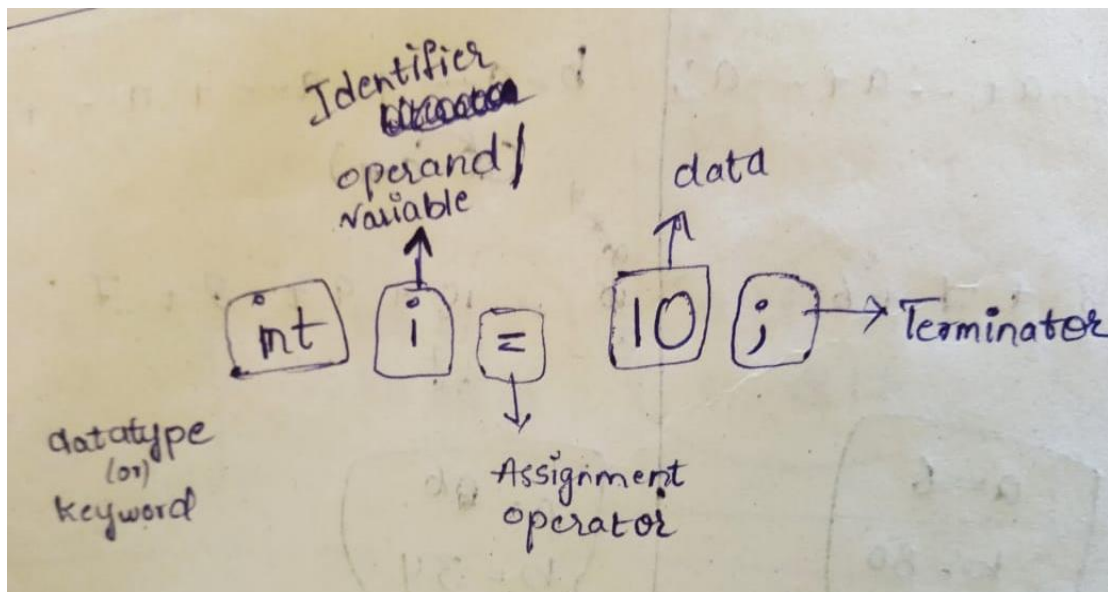
19-06-2023

## DATATYPES:

To specify what a variable can hold that datatypes are used.



| <u>primitive</u>                                                       | <u>non-primitive</u>        |
|------------------------------------------------------------------------|-----------------------------|
| 1.byte<br>2.short 3.int 4.long 5.float<br>6.double<br>7.boolean 8.char | 1. arrays<br>2.strings..... |



### 1.Integer number datatypes: without decimal number.

|                                                                           |                                                                                            |                                                                                                    |                                                                               |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>Byte:</b> 1byte=8bits<br>Range:<br>-128 to 127<br><br>Eg: byte age=20; | <b>Short:</b> 2byte=16bits<br>Range:<br>-32768 to 32767<br><br>Eg: short<br>distane=30000; | <b>Int:</b> 4byte=32bits<br>Range:<br>-2147483648 to<br>2147483647<br>Eg:int views=<br>2147483647; | <b>Long:</b> 8byte=64bits<br>Range:<br>-2 <sub>63</sub> to 2 <sub>63</sub> -1 |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|

Programs:

#### **1.Byte:**

```
Class bytedemo{
```

```
Psvm(String[]args){
```

```
Byte b=10;                                byte b=130;
```

```
s.o.p(b);}}
```

output:10

output:error:incompatibletypes:possible lossy

////////////////////////////////conversion from int to byte.

#### **2.short:**

```
Short s=2138;                                short s=32769;
```

```
Output: 2138                                : error:incompatible type:.....
```

#### **3.int:**

```
Int i =2576327;
```

```
Output:2576327
```

#### **4.long:**

```
Long l=123232849;                                longl=21l;
```

```
Output:error:incompatibletypes...           :21l
```

### 2.real number datatypes: with decimal numbers.

|                                                                                      |                                                                |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b><u>Float:</u></b> 4byte=32bits<br>Follows single precision(digits after decimal). | <b><u>Double:</u></b> 8byte=64bits<br>Follow double precision. |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------|

Programs:

Float f=12.35; output=error

Float f=12.35f; output=12.35

Double d= true; output=error

**Command** for other operations is: **javap java.lang.Float**(type in command prompt).

**PROGRAM:**

float f=12.35f;

sop("java.lang.float");

system.out.println(java.lang.float,MAX\_VALUE);

Output:3.4.....

**3.boolean:** specify true or false condition.

**Program:**

boolean b =true output:\_ true

boolean\_ b = True output: cannot find symbol

boolean b = 'true' ouput:error.....

boolean b = 0; ouput : error.....

**4.char:** 2byte=16bits

Range: 0-35565

**Program:**

char c = 'A' output: A

char c = 'AB' output: error