1) Assignment Problems ✓
2) Attendance → Live lecture
   ↳ Recording

```
public static void main () {
    System.out.print("Hello World")
}
```
Hello World

```
public static void main () {
    System.out.print(1999)
}
```

- System ✓   system ✗

  system . out . print (10)

- System.out.print (5 * 10)   50

- System.out.print ("5 * 10")   5 * 10

  "   " → this is a string / sentence

- System.out.print (5 + 10)   15
- System.out.print (5 - 10)   -5
- System.out.print (5 * 10)   50
- System.out.print (10/5)   2

15 -5 50 2

- System.out.println(5 + 10)   15
- System.out.println (5 - 10)   -5
- System.out.println(5 * 10)   50
- System.out.println (10/5)   2

```
System.out.println ( "Red")
System.out.print ( "Blue ")
System.out.println ( "Green")
System.out.print ( "Yellow")
```

Red
→ Blue . Green

- Comments

```
// This code helps me add 2 numbers
```

```
/*
   this is
   a
   multiline comment
*/
```

```
System.out.print ( 5 + 20)          25
System.out.print ( "ele" + "phant")    elephant
```

concatenation
Put one after the other

```
System.out.print ( "Sachin" + "Ramesh" + "Tendulkar")
```
Sachin Ramesh Tendulkar

System.out.print ("Oscar" + 12)   Oscar 12
                          "12"

                (12 + "Oscar")   12 Oscar
                   "12"

- Trying to add string and a number ⟹

  Number is considered as string.

System.out.print (1 + 2 + "Oscar")

        12 Oscar   3 Oscar
           ✗   ✓

System.out.print (1 + 2 + "Oscar" + 5 + 2)
                    3 + "Oscar" + 5 + 2
                    "3 Oscar" + 5 + 2
                    "3 Oscar 5" + 2
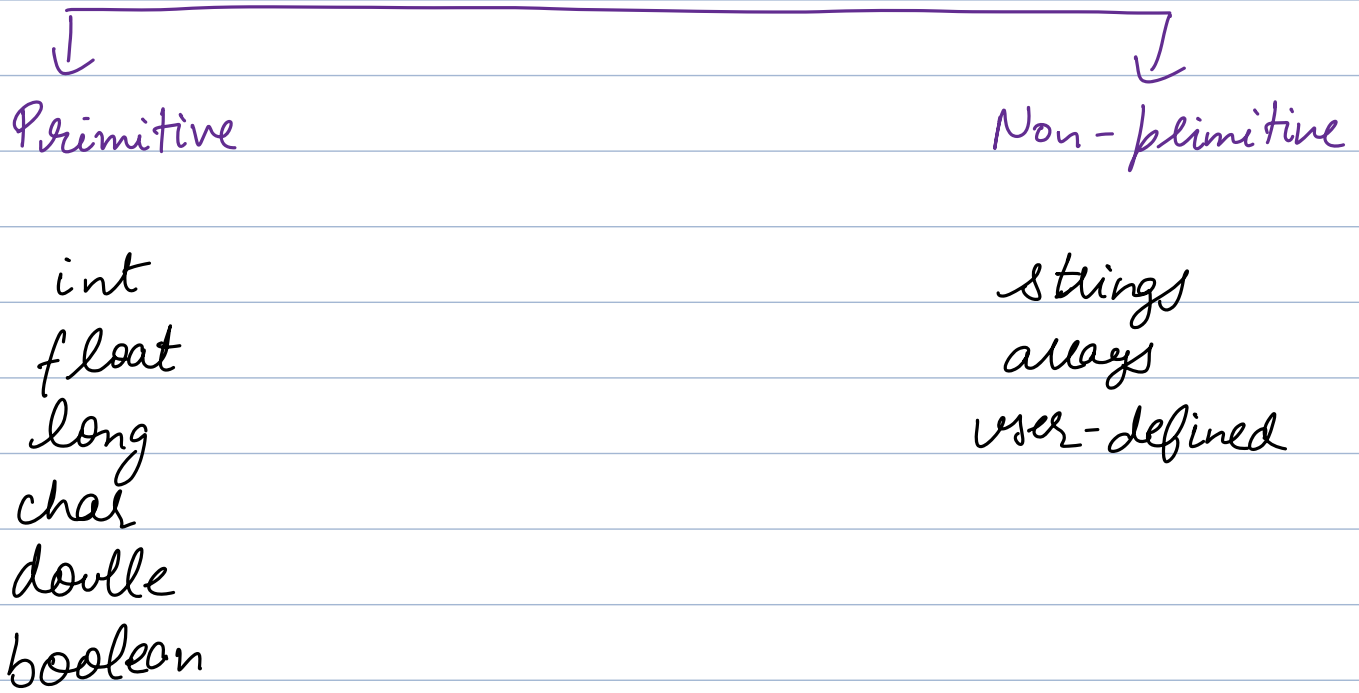   "3 Oscar 5 2"

    7 + 1 + "156"   "156" + 7 + 1
      8 + "156"   "1567" + 1
       "8156"   "15671"

- Data types

Data types

Primitive

Non-primitive

int
float
long
char
double
boolean

strings
arrays
user-defined
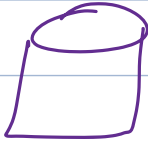
- Numeric data types

1) Integer

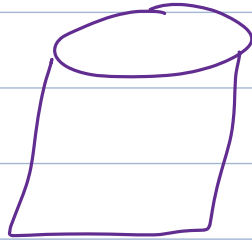Byte   short   int   long

size   1   2   4   8

Byte $\Rightarrow$ -128 to 127

short $\Rightarrow$ -32768 to 32767

int $\Rightarrow$ -2^{31} to $2^{31}-1$

           -10^{9} to 10^{9}

long $\Rightarrow$ -2^{63} to $2^{63}-1$

           -10^{18} to 10^{18}

2)   Decimal

1)   float   double
       6-7 decimal   15 decimal
           places   places

- **Type casting**

        int   smaller   than   long

int → long   ✓

long → int   ✗

Typecast from smaller datatype to
                bigger data type

- int x = 5

  long y = x ✓

  print (y)   5

- long x = 1000000000000l

  int y = x   ✗

  Error : Possibly lossy conversion

- long x = 1000

  int y = (int)x ✓
  {}
  explicit typecasting

- Inputs in java

```
Scanner scn = new Scanner (System.in);

int x =   scn.nextInt ();

double y =   scn.nextDouble ();


String s =   scn.next ();   // take 1 word

String s =   scn.nextLine ();
            // Read the whole sentence
```

Q1   Take 2 names X & Y as input &
      print "X loves Y"

X = Ram   Y = Shyam
        Ram loves Shyam

```
Scanner scn = new Scanner (System.in)
String x =   scn.next()
String y =   scn.next()

print ( x + " loves " + y )
```

Q2   Take x (string) & y (int)

         Print   x   age   is   y

X = "Aman"   y = 33

         Aman age   is   33

Scanner   scn = new Scanner (System.in)
String   x =   scn.next()
int   y =   scn.nextInt()

print (x + " age is " + y)

         2 hrs   to   2.5 hrs

         11 PM   11:30 PM