⟹ Comparision and logical operators

(Relational)

Greater than 100 or not

int x = 10 false

x = 110 true

```
String ans = (x > 100) ? "True" : "False";
```

Ternary operator

Code

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();

    String ans = (x > 100) ? "True" : "False";
    System.out.println(ans);
}
```

true

false

= x

x

Ternary operator

int x = 4;

```
int a = (x == 3) ? 5 : 7;
```

print (a);

xyzw

i/p

```
int x = 5;
int y = 6;
int z = 10;
int w = 3;
```

```
boolean ans = ((x * y) == (z * w));
```

code

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();
    int z = scn.nextInt();
    int w = scn.nextInt();

    String ans = ((x * y) == (z * w)) ? "True" : "False";
    System.out.println(ans);
}
```

Note:- char a = 'C' ;

String b = "+-53AbcZ325" ;

Even or not

i/p int a = 54 ;

boolean ans = (a % 2) == 0 ;

ex:

12 % 2 == 0 true

```
    6
2 ) 12 (
    12
    --
     0
```

13 % 2 == 0 false

```
    6
2 ) 13 (
    12
    --
     1
```

Code

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int a = scn.nextInt();

    String ans = ((a % 2) == 0) ? "True" : "False";
    System.out.println(ans);
}
```

Sum is less than 150 or not.

int x = 50 ;
int y = 51 ;
int z = 52 ;
int sum = (x + y + z) ;
boolean ans = (sum > 150) ;

↳ true or false

code

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();
    int z = scn.nextInt();
    int sum = (x + y + z);
    String ans = (sum < 150) ? "True" : "False";
    System.out.println(ans);
}
```

⇒ Logical operators

AND , NOT , OR operator

AND

&&

a	b	c
T	T	T
T	F	F
F	T	F
F	F	F

(if anyone is false then) ans is false

OR

||

a	b	c
T	T	T
T	F	T
F	T	T
F	F	F

(if anyone is true then) answer will be true

NOT

!

a	c
T	F
F	T

Que

boolean ans = (3 > 2) && (14 > 3) :- True

boolean ans = (40 > 3) && (40 > 50) :- False

boolean ans = (40 >= 40) || (50 >= (2 * 30)) :- True

boolean ans = ((2 * 3 == 4) && (6 * 4 == 9)) || (4 > 2) :- True

boolean ans = !(2 * 5 != 10) :- True