

BITWISE NOT(!) and COMPLIMENT(~)

COMPLIMENT

This operator is unary operator denoted by “~” it returns the one's complement representation of input value., ie.. with all bits inverted, which means it makes every 0 to 1 and every 1 to 0 .

Example:

A = 5 = 0101 (in binary)

~ 0101 is 1010 which is 10

JAVA PROGRAM FOR COMPLIMENT

```
class compliment
{
    Public static void main(String [] args)
    {
        Int a=5;
        SYstem.out.println("a compliment is : "+~a);
    }
}
```

Output : a compliment is : 10

NOT(!) OPERATOR

Not operator is use to reverse the result

If condition is true it returns false and if condition is false it returns true.

Example

Int a = 10, b=20;

!(a<b) returns false

!(a>b) returns true

JAVA PROGRAM FOR NOT

```
class Main
{
    public static void main(String[] args)
    {
        int x = 5;
        System.out.println(!(x > 3 && x < 10));
    }
}
```

BIG INTEGER

Big Integer class is used for the mathematical operation which involves very big integer calculations that are outside the limit of all available primitive data types.

In this way, Big Integer class is very handy to use because of its large method library and it is also used a lot in competitive programming.

EXAMPLE:

```
int a,b;
```

```
BigInteger A,B;
```

Initialization

```
a = 20;
```

```
b= 30;
```

```
A = BigInteger.valueOf(20);
```

```
B= BigInteger.valueOf(30);
```

For integers available as strings

```
A = new BigInteger("20");
```

MATHEMATICAL OPERATIONS FOR BIG INTEGER

ADDITION

```
BigInteger C = A.add(B);
```

For integer of strings

```
String str = "12345"
```

```
BigInteger Z = A.add(new BigInteger(str));
```

There are many methods available for BigInteger class

<https://www.geeksforgeeks.org/biginteger-class-in-java/>