Operators

Operator in Java is a special symbol that is used to perform operations
for example : +, −, *, / etc.

Types of Operators

- Arithmetic Operators
- Assignment "
- Comparison "
- Logical "
- Bitwise "
- Unary "

1 Arithmetic Operators :-

Arithmetic Operators are used to perform common mathematical operations.

Operator	Name	Example
+	Addition	x+y
−	Subtraction	x-y
*	Multiplication	x*y
/	Division	x/y
%	Modulus	x-(-y

__/__/____

Program

```
class Arithmetic
{
public static void main (String args[])
{
int x = 4;
int y = 2;

System.out.println(x+y);
System.out.println(x-y);
System.out.println(x*y);
System.out.println(x/y);
System.out.println(x%y);
}
}
```

2) Assignment Operators

- Assignment Operators are used to assign values to variables.

- In the example, we use the assignment operator (=) to assign the value 5 to a variable x.

Operator	Example	Same as
=	x = 5	x = 5

__/__/____

+=	x+=3	x=x+3
-=	x-=3	x=x-3
*=	x*=3	x=x*3

Program

```
class Assignment
{
public static void main (String args[])
{
    int x=5;
    x+=3;
    System.out.println(x);
    x-=3
System.out.println(x);
}
}
```

Output: 8
2

(3) Comparison Operators :- (Relational).

- Comparison Operators are used to compare two values.
- It helps to make the decisions.

5 The return value of a comparison is either true or false.

Operator	Name	Example
==	Equal to	x==y
!=	Not equal	x!=y
>	Greater than	x>y
<	less than	x<y
>=	Greater than equalto	x>=y
<=	less than or equal to	x<=y

Program

```
class Compare
{
public static void main (String args[])
{
    int x = 5;
    int y = 3;
  System.out.println(x>y);
}
}
```

Output : true

__/__/____

(4) Logical Operators :-

- Logical Operators are used to determine the logic between variables or value.
- It is used to performing Logical "AND" "OR" and "NOT".

Operator	Symbol
AND	&&
OR	||
NOT	!

Program

```
class Logical
{
    public static void main (String args[])
    {
        System.out.println((5>3) && (8>5));
        System.out.println((5>3) || (8>5));
        System.out.println(!(5==3));
        System.out.println(!(5>3));
    }
}
```

Output:

```
true
true
true
false
```

__/__/____

(5) Bitwise Operators

Bitwise Operators in Java are used to perform operations on individual bits.

Operators	Description
~	Bitwise Complement
<<	Left Shift
>>	Right Shift
&	Bitwise AND
^	Bitwise exclusive OR.

(6) Unary Operators

Unary Operators are used with only one operand.

for example ++ is a unary operator that increases the value of variable by 1.

Operator	Meaning
++	increment value by 1
--	decrement " " "
!	inverts the value of a boolean.

Example

__/__/____

```
Class incredecre
{
public static void main (String args[])
{
    int a = 12, b = 12;
    int result1, result2;

    result1 = ++a;
System.out.println (result1);

    result2 = --b;
System.out.println (result2);

}
}
```

· Output

13
11