# **Operators**

**What is the % operator?**

It is referred to as the modulo or remainder operator. It returns the remainder of dividing the first operand by the second operand.

Example:

**public** **class** JavaExamples {

**public** **static** **void** main(String[] args) {

**int** a = 5;

**int** b = 3;

System.***out***.println("% - Reminder is "+a%b);

}

}

Result: Reminder is 2

**What is the difference between the prefix and postfix forms of the ++ operator?**

The prefix form performs the increment operation and returns the value of the increment operation. The postfix form returns the current value all of the expression and then performs the increment operation on that value.

Example:

**public** **class** JavaExamples {

**public** **static** **void** main(String[] args) {

**int** a = 1;

**int** b;

b = a++;

System.***out***.println("b is "+b);

System.***out***.println("a is "+a);

**int** c = 1;

**int** d;

d = ++c;

System.***out***.println("c is "+c);

System.***out***.println("d is "+d);

}

}

Result:

b is 1

a is 2

c is 2

d is 2

**What is the difference between the Boolean & operator and the && operator?**

If an expression involving the Boolean & operator is evaluated, both operands are evaluated. Then the & operator is applied to the operand. When an expression involving the && operator is evaluated, the first operand is evaluated. If the first operand returns a value of true then the second operand is evaluated. The && operator is then applied to the first and second operands. If the first operand evaluates to false, the evaluation of the second operand is skipped.

Ex:

**public** **class** JavaExamples {

**public** **static** **void** main(String[] args) {

**int** a = 2;

**int** b = 3;

**int** c = 2;

**if**(((a==b) & (a==c))) {

System.***out***.println("equal values");

}

**else** {

System.***out***.println("values are not equal");

}

}

}

**What are compound assignment operators?**

The operator that combines Arithmetic operator with assignment is known as Compound Assignment operator.

For example, x+=10;

**What is the output of the following?**

1. **int** a, b;

a=10;

b=++a; //Result 11

1. **int** a, b;

a=10;

b=a++; //Result 10

1. **int** a=20;

a= ++a + 1; //Result 22

1. **int** a=20;

a= a++ + 1; //Result 21

1. **int** a=20;

a= ++a + ++a;//Result 43

1. **int** a=20;

a= a++ + a++; //Result 41

1. **int** a=20;

a= a++ + ++a; //Result 42

1. **int** a, b;

a=30;

b=a--; // Result 39

1. **int** a=20;

a= --a - 1; //Result 18

1. **int** a=20;

a= a-- - 1; //Result 19

1. **int** a=20;

a= --a - --a; //Result 1

1. **int** a=20;

a= a-- - a--; //Result 1

1. **int** a=20;

a= a-- - --a; //Result 2

1. **int** a=20;

a= a-- - ++a; //Result 40