Java Arithmetic Operators with Examples

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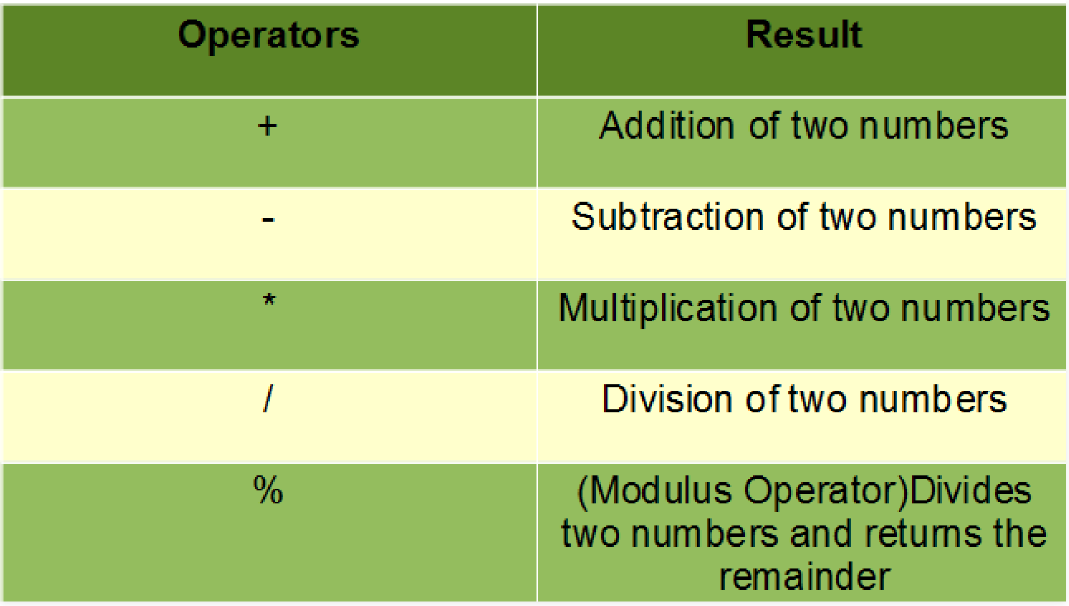
Operators constitute the basic building block to any programming language. Java too provides many types of operators which can be used according to the need to perform various calculations and functions, be it logical, arithmetic, relational, etc. They are classified based on the functionality they provide. Here are a few types:

1. Arithmetic Operators
2. Unary Operators
3. Assignment Operator
4. Relational Operators
5. Logical Operators
6. Ternary Operator
7. Bitwise Operators
8. Shift Operators

This article explains all that one needs to know regarding Arithmetic Operators.

Arithmetic Operators

These operators involve the mathematical operators that can be used to perform various simple or advanced arithmetic operations on the primitive data types referred to as the operands. These operators consist of various unary and binary operators that can be applied on a single or two operands. Let’s look at the various operators that Java has to provide under the arithmetic operators.



Operators	Result
+	Addition of two numbers
-	Subtraction of two numbers
*	Multiplication of two numbers
/	Division of two numbers
%	(Modulus Operator)Divides two numbers and returns the remainder

Now let’s look at each one of the arithmetic operators in Java:

1. Addition(+): This operator is a binary operator and is used to add two operands.

Syntax:

```
num1 + num2
```

Example:

```
num1 = 10, num2 = 20
sum = num1 + num2 = 30
```

```
// Java code to illustrate Addition operator

import java.io.*;

class Addition {
    public static void main(String[] args)
    {
        // initializing variables
        int num1 = 10, num2 = 20, sum = 0;

        // Displaying num1 and num2
        System.out.println("num1 = " + num1);
        System.out.println("num2 = " + num2);

        // adding num1 and num2
        sum = num1 + num2;
        System.out.println("The sum = " + sum);
    }
}
```

Output

```
num1 = 10
num2 = 20
The sum = 30
```

2. Subtraction(-): This operator is a binary operator and is used to subtract two operands.

Syntax:

```
num1 - num2
```

Example:

```
num1 = 20, num2 = 10
sub = num1 - num2 = 10
```

```
// Java code to illustrate Subtraction operator

import java.io.*;

class Subtraction {
    public static void main(String[] args)
    {
        // initializing variables
        int num1 = 20, num2 = 10, sub = 0;

        // Displaying num1 and num2
        System.out.println("num1 = " + num1);
        System.out.println("num2 = " + num2);

        // subtracting num1 and num2
        sub = num1 - num2;
        System.out.println("Subtraction = " + sub);
    }
}
```

Output

```
num1 = 20
num2 = 10
Subtraction = 10
```

3. Multiplication(*): This operator is a binary operator and is used to multiply two operands.

Syntax:

```
num1 * num2
```

Example:

```
num1 = 20, num2 = 10
mult = num1 * num2 = 200
```

```java
// Java code to illustrate Multiplication operator

import java.io.*;

class Multiplication {
    public static void main(String[] args)
    {
        // initializing variables
        int num1 = 20, num2 = 10, mult = 0;

        // Displaying num1 and num2
        System.out.println("num1 = " + num1);
        System.out.println("num2 = " + num2);

        // Multiplying num1 and num2
        mult = num1 * num2;
        System.out.println("Multiplication = " + mult);
    }
}
```

Output

```
num1 = 20
num2 = 10
Multiplication = 200
```

4. Division(/): This is a binary operator that is used to divide the first operand(dividend) by the second operand(divisor) and give the quotient as a result.

Syntax:

```
num1 / num2
```

Example:

```
num1 = 20, num2 = 10
div = num1 / num2 = 2
```

```
// Java code to illustrate Division operator

import java.io.*;

class Division {
    public static void main(String[] args)
    {
        // initializing variables
        int num1 = 20, num2 = 10, div = 0;

        // Displaying num1 and num2
        System.out.println("num1 = " + num1);
        System.out.println("num2 = " + num2);

        // Dividing num1 and num2
        div = num1 / num2;
        System.out.println("Division = " + div);
    }
}
```

Output

```
num1 = 20
num2 = 10
Division = 2
```

5. Modulus(%): This is a binary operator that is used to return the remainder when the first operand(dividend) is divided by the second operand(divisor).

Syntax:

```
num1 % num2
```

Example:

```
num1 = 5, num2 = 2
mod = num1 % num2 = 1
```

```java
// Java code to illustrate Modulus operator

import java.io.*;

class Modulus {
    public static void main(String[] args)
    {
        // initializing variables
        int num1 = 5, num2 = 2, mod = 0;

        // Displaying num1 and num2
        System.out.println("num1 = " + num1);
        System.out.println("num2 = " + num2);

        // Remaindering num1 and num2
        mod = num1 % num2;
        System.out.println("Remainder = " + mod);
    }
}
```

Output

```
num1 = 5
num2 = 2
Remainder = 1
```