



# **SNS COLLEGE OF TECHNOLOGY**

**Coimbatore-35.**

**An Autonomous Institution**

**Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A++’ Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**

**DEPARTMENT OF COMPUTER SCIENCE ENGINEERING  
COURSE CODE & NAME : 23CST205 - Object Oriented Programming Using Java**

**II YEAR/ III SEMESTER**

**UNIT – II INTRODUCTION TO JAVA**

**Topic: BASICS OF JAVA PROGRAMMING-OPERATORS**



# Java Operators

- Operators are used to perform operations on variables and values.
- In the example below, we use the + operator to add together two values:
- Example

```
int x = 100 + 50;
```

- Although the + operator is often used to add together two values, like in the example above, it can also be used to add together a variable and a value, or a variable and another variable:
- Example

```
int sum1 = 100 + 50;    // 150 (100 + 50)
```

```
int sum2 = sum1 + 250;  // 400 (150 + 250)
```

```
int sum3 = sum2 + sum2; // 800 (400 + 400)
```



# Java Operators

Java divides the operators into the following groups:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Logical operators
- Bitwise operators



# Arithmetic Operators

- Arithmetic operators are used to perform common mathematical operations.

Operator	Name	Description	Example
+	Addition	Adds together two values	$x + y$
-	Subtraction	Subtracts one value from another	$x - y$
*	Multiplication	Multiplies two values	$x * y$
/	Division	Divides one value by another	$x / y$
%	Modulus	Returns the division remainder	$x \% y$
++	Increment	Increases the value of a variable by 1	$++x$
--	Decrement	Decreases the value of a variable by 1	$--x$



# Assignment Operators

- Assignment operators are used to assign values to variables.

Operator	Example	Same As
=	x = 5	x = 5
+=	x += 3	x = x + 3
-=	x -= 3	x = x - 3
*=	x *= 3	x = x * 3
/=	x /= 3	x = x / 3
%=	x %= 3	x = x % 3
&=	x &= 3	x = x & 3
=	x  = 3	x = x   3
^=	x ^= 3	x = x ^ 3
>>=	x >>= 3	x = x >> 3
<<=	x <<= 3	x = x << 3



# Comparison Operators

- Comparison operators are used to compare two values (or variables).
- The return value of a comparison is either true or false. These values are known as Boolean values.

Operator	Name	Example
<code>==</code>	Equal to	<code>x == y</code>
<code>!=</code>	Not equal	<code>x != y</code>
<code>&gt;</code>	Greater than	<code>x &gt; y</code>
<code>&lt;</code>	Less than	<code>x &lt; y</code>
<code>&gt;=</code>	Greater than or equal to	<code>x &gt;= y</code>
<code>&lt;=</code>	Less than or equal to	<code>x &lt;= y</code>



# Logical Operators

- Logical operators are used to determine the logic between variables or values:
- You can also test for true or false values with logical operators.

Operator	Name	Description	Example
&&	Logical and	Returns true if both statements are true	<code>x &lt; 5 &amp;&amp; x &lt; 10</code>
	Logical or	Returns true if one of the statements is true	<code>x &lt; 5    x &lt; 4</code>
!	Logical not	Reverse the result, returns false if the result is true	<code>!(x &lt; 5 &amp;&amp; x &lt; 10)</code>



