SNS COLLEGE OF TECHNOLOGY

Coimbatore-35.

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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-MATH CLASS

Java Math Class

- The Java Math class is a powerhouse of static methods and constants that facilitate a wide range of mathematical operations from basic arithmetic to complex trigonometric calculations.
- What is Java Math Class?

  The **Java Math class**, part of the **java.lang** package is a utility class that provides a wide range of mathematical functions and constants.
- Declaration

```
public final class Math extends Object {
   // Class body with methods and constants
}
```

- This declaration indicates that the Math class:
- Cannot be subclassed: Because it's declared as final.
- Inherits from Object: Like all Java classes, Math implicitly extends the Object class, which is the root of the Java class hierarchy.

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
==	Equal to	x == y
!=	Not equal	x != y
>	Greater than	x > y
<	Less than	x < y
>=	Greater than or equal to	x >= y
<=	Less than or equal to	x <= y

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	x < 5 && x < 10
||	Logical or	Returns true if one of the statements is true	x < 5 || x < 4
!	Logical not	Reverse the result, returns false if the result is true	!(x < 5 && x < 10)


THANK
YOU!