***OPERATORS IN JAVA***

**1. What are the operators in java?**

# Ans: - Java provides many types of operators which can be used according to the need. They are classified based on the functionality they provide. Some of the types are-

1. [Arithmetic Operators](https://www.geeksforgeeks.org/operators-in-java/#Arithmetic%20Operators)
2. [Unary Operators](https://www.geeksforgeeks.org/operators-in-java/#Unary%20Operators)
3. [Assignment Operator](https://www.geeksforgeeks.org/operators-in-java/#Assignment%20Operator)
4. [Relational Operators](https://www.geeksforgeeks.org/operators-in-java/#Relational%20Operators)
5. [Logical Operators](https://www.geeksforgeeks.org/operators-in-java/#Logical%20Operators)
6. [Ternary Operator](https://www.geeksforgeeks.org/operators-in-java/#Ternary%20Operator)
7. [Bitwise Operators](https://www.geeksforgeeks.org/operators-in-java/#Bitwise%20Operators)
8. [Shift Operators](https://www.geeksforgeeks.org/operators-in-java/#Shift%20Operators)
9. [instance of operator](https://www.geeksforgeeks.org/operators-in-java/#instance%20of%20Operator)
10. [Precedence and Associativity](https://www.geeksforgeeks.org/operators-in-java/#Precedence%20and%20Associativity)
11. [Interesting Questions](https://www.geeksforgeeks.org/operators-in-java/#Interesting%20Questions)
12. **Arithmetic Operators:** They are used to perform simple arithmetic operations on primitive data types.
    * **\* :**Multiplication
    * **/ :**Division
    * **% :**Modulo
    * **+ :**Addition
    * **– :**Subtraction

**2. What is instanceof operator?**

Ans: - The java instanceof operator is used to test whether the object is an instance of the specified type (class or subclass or interface).

**3. What is the difference between the >> and >>> operators?**

Ans: - The >> operator carries the sign bit when shifting right. The >>> zero-fills bits that have been shifted out.

**4. What is the use of dot operator?**

Ans: - Dot operator is used to access methods and variables within objects and classes. They are used to access instance members of an object and class members of a class.

**5. What is ternary operator? Give an example.**

Ans: - Ternary operator is the replacement of conditional control structure. And used to check the condition.

Int result =10 > 2 ? 10 : 2;

**6. Difference between & and | operator in java?**

Ans: - & is a bitwise operator and compares each operand bitwise, if both are true then return true. | is a bitwise operator and compares each operand bitwise, if anyone is true then return true.

**7. Difference between && and || operator?**

Ans: - Logical AND operates always work on boolean operands. In case of Logical AND “&&”. If both the operands are true, then the condition becomes true otherwise it is false.

**8. How to use ^ (XOR) operator?**

Ans: - (XOR) ^ is a bitwise operator and compares each operand bitwise, if both are different then it returns true otherwise false.

**9. What is the role of precedence & associativity in operator?**

Ans: - When multiple operators are involved in an expression, Java language has a predefined rule of priority for the operators. This rule of priority of operators is called operator precedence.

If two operators of same precedence (priority) is present in an expression, Associativity of operators indicate the order in which they execute.

**10. Difference between a=a+b and a+=b?**

Ans: - Arithmetic operator can’t perform implicit casting whereas the arithmetic assignment operators do an implicit cast.

**11. What are the unary operators available in java?**

Ans: - The following are the unary operators available in java:

1. expression++

2. expression--

3. ++expression

4. --expression

5. +expression

6. -expression

7. ~

8. !

**12. Difference between logical and bitwise operator?**

Ans: - The logical(non-bitwise) operators && and || are short-circuit operators. In other words, with && if the LHS (Left Hand Side) is false, the RHS (Right Hand Side) will never be evaluated. With || if the LHS is true, then the RHS will never be evaluated. On the other hand, the bitwise operators & and | are non-short-circuit, will always evaluate both the LHS and RHS.

**13. Use of Unary – operator?**

Ans: - This operator is used for negating the values.

**14. Use of ~ operator?**

Ans: - This is a unary operator which returns the one’s compliment representation of the input value, i.e. with all bits inversed.

**15. Difference between > and >= operator?**

Ans: - Greater than “>” operator returns true of left hand side is greater than right hand side whereas Greater than or equal to “>=” returns true of left hand side is greater than or equal to right hand side.

**16. What is the difference between i++ and ++i ?**

Ans: - In case of i++, first assigns a value to expression and then increments the variable but in case of ++i, first increments then assigns a value to the expression.

**17. What is explicit casting and its drawback?**

Ans: When you are assigning a larger type value to a variable of smaller type, then you need to perform explicit type casting, drawback is possibility

of data loss.

**18. Is it possible to cast boolean in java?**

Ans: - A boolean value cannot be assigned to any other data type in java, in other words, boolean is incompatible for conversion.

**19. Drawback of implicit casting?**

Ans: - A boolean value cannot be assigned to any other data type in java, in other words, boolean is incompatible for conversion.

**20. Tree structure of all the datatypes according to typecasting?**

Ans: -

