Operators in Java

Operator in <u>Java</u> is a symbol that is used to perform operations. For example: +, -, *, / etc. There are many types of operators in Java which are given below:

- o Unary Operator,
- o Arithmetic Operator,
- o Shift Operator,
- o Relational Operator,
- o Bitwise Operator,
- o Logical Operator,
- o Ternary Operator and
- o Assignment Operator.

Java Operator Precedence

Operator Type	Category	Precedence
Unary	**postfix**	`expr++ expr--`
	prefix	`++expr --expr +expr -expr ~ !`
Arithmetic	**multiplicative**	`* / %`
	additive	`+ -`
Shift	**shift**	`<< >> >>>`
Relational	**comparison**	`< > <= >= instanceof`
	equality	`== !=`
Bitwise	**bitwise AND**	`&`
	bitwise exclusive OR	`^`
	bitwise inclusive OR	`|`
Logical	**logical AND**	`&&`
	logical OR	`||`

Ternary	ternary	? :
Assignment	assignment	= += -= *= /= %= &= ^= |= <<= >>= >>>=

Java Constant

As the name suggests, a **constant** is an entity in programming that is immutable. In other words, the value that cannot be changed. In this section, we will learn about **Java constant** and **how to declare a constant in Java**.

What is constant?

Constant is a value that cannot be changed after assigning it. Java does not directly support the constants. There is an alternative way to define the constants in Java by using the non-access modifiers static and final.

How to declare constant in Java?

In Java, to declare any variable as constant, we use static and final modifiers. It is also known as **non-access** modifiers. According to the Java naming convention the identifier name must be in **capital letters**

Static and Final Modifiers

1.   **static final** datatype identifier_name=value;

For example, **price** is a variable that we want to make constant.

2. static final double PRICE=432.78;

Java Comments

The Java comments are the statements in a program that are not executed by the compiler and interpreter.

Why do we use comments in a code?

- o   Comments are used to make the program more readable by adding the details of the code.
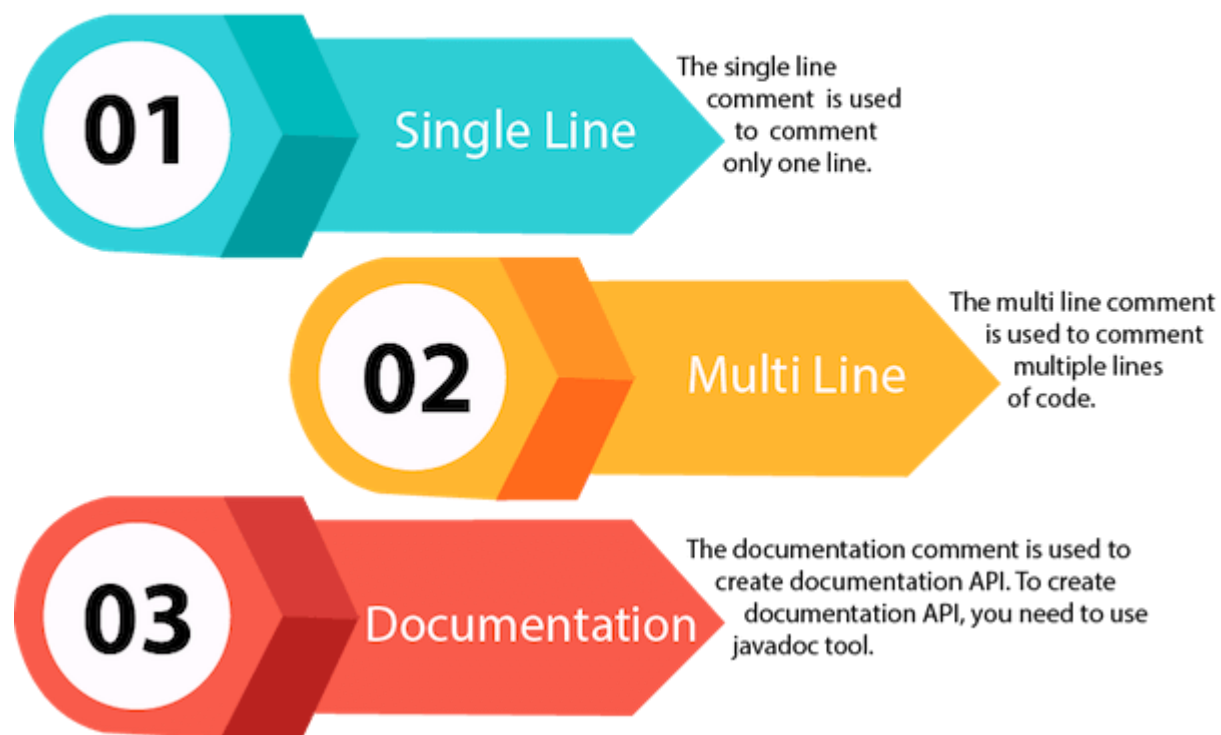- o   It makes easy to maintain the code and to find the errors easily.

- o The comments can be used to provide information or explanation about the <u>variable</u>, method, <u>class</u>, or any statement.
- o It can also be used to prevent the execution of program code while testing the alternative code.

Types of Java Comments

There are three types of comments in Java.

1. Single Line Comment
2. Multi Line Comment
3. Documentation Comment

Types of Java Comments

01 Single Line — The single line comment is used to comment only one line.

02 Multi Line — The multi line comment is used to comment multiple lines of code.

03 Documentation — The documentation comment is used to create documentation API. To create documentation API, you need to use javadoc tool.

Java MCQs

Regarded Operators , Comments,Constant

1. **Which of the Following can be operands of arithmetic operators?**
   a) Numeric b)Boolean c)Characters d) Both Numeric & Character
   Ans : d)

2. **Modulus operator , % can be applied to which of these?**
   a) Integer b)Floating-point numbers c)Both integer & Floating-point numbers d)none
   Ans: c)

3. **Decrement operator ,--, decreases the value of variable by what number**
   a) 1   b) 2   c)3   d) 4
   Ans : a)

4. **Which of these is not a bitwise operator ?**
   a) &   b) &= c)|= d) <=
   Ans : d)

5. **Which operator is used to invert all the digits in a binary representation of a number?**
   a) ~ b) <<<< c) >>>> d) ^
   Ans : a)

6. **Which right shift operator preserve the sign of the value ?**
   a) << b) >> c) <<= d) >>=
   Ans : b)

7. **What is the output of the relational operators ?**
   a) integer b) Boolean c) Character d) Double
   Ans : b)

8. **Which of these operators can skip evaluating right hand operand ?**
   a) ! b) | c) &   d) &&
   Ans : d)

9.**Which of these have a highest precedence ?**

a) ()   b) ++   c) *   d) >>

Ans : a)

10. **Which is of these can be returned by the operator & ?**
    a) Integer b) Boolean c) Character d) integer or Boolean
    Ans : d)

11.**Which are the ternary oprators ? is created**
    a) ?: b) ++ c) --   d) all of the
    Ans : a)

12. The && and || Operators

    a) Compare two Boolean value b) compare to numeric value c) compare to Boolean value d) combine two numeric values

    Ans : c)

13. What is the output of the relation operators ?

a) integer b) Boolean c) Character d)Double

Ans : b)

14. Multiline comment is created using ?

a) //   b) /* */ c) <!----> d) All of these

    Ans : b)

15. Select from among the following character escape code which is not available in java

a) /t b) /r c) /a)   d)/v

Ans: c)

16. Who invented Java Programming?
a) Guido van Rossum
b) James Gosling
c) Dennis Ritchie
d) Bjarne Stroustrup
Ans: b)

17. Which statement is true about Java?
a) Java is a sequence-dependent programming language
b) Java is a code dependent programming language
c) Java is a platform-dependent programming language
d) Java is a platform-independent programming language
Ans: d)

18. Which component is used to compile, debug and execute the java programs?
a) JRE
b) JIT
c) JDK
d) JVM
Ans: c)

19. Which one of the following is not a Java feature?
a) Object-oriented
b) Use of pointers
c) Portable
d) Dynamic and Extensible
Ans : b)

20 Which of these cannot be used for a variable name in Java?
a) identifier & keyword
b) identifier
c) keyword
d) none of the mentioned
Ans: c)

21. What is the extension of java code files?
a) .js
b) .txt
c) .class
d) .java
Ans: d)

22. Which environment variable is used to set the java path?
a) MAVEN_Path
b) JavaPATH
c) JAVA
d) JAVA_HOME
Ans: d)

23. Which of the following is not an OOPS concept in Java?
a) Polymorphism
b) Inheritance
c) Compilation
d) Encapsulation
Ans: c)

24. What is not the use of "this" keyword in Java?
a) Referring to the instance variable when a local variable has the same name
b) Passing itself to the method of the same class
c) Passing itself to another method
d) Calling another constructor in constructor chaining
Ans: b)

25. Which of the following is a type of polymorphism in Java Programming?
a) Multiple polymorphism
b) Compile time polymorphism
c) Multilevel polymorphism
d) Execution time polymorphism
Ans : b)

26. Which of these are selection statements in Java?
a) break
b) continue
c) for()
d) if()
Ans: d)

27. Which of the following is a superclass of every class in Java?
a) ArrayList
b) Abstract class
c) Object class
d) String
Ans: c)

28. How many types of operators in java ?
 a) 2   b) 5   c) 4   d) 8
Ans: d)

29.Which of the following can be operands of arithmetic operators?

A. Characters
B. Boolean
C. Numeric
D. Both Numeric & Characters
  Ans : D)

30.Modulus operator, %, can be applied to which of these?

A. Both Integers and floating - point numbers
B. Integers
C. Floating - point numbers
D. None of the mentioned
  Ans : A

31. Decrement operator, â˜â˜, decreases the value of variable by what number?

A. 1
B. 2
C. 3
D. 4
  Ans : A

32. Which of these statements are incorrect?

A. Assignment operators can be used only with numeric and character data type
B. Assignment operators are more efficiently implemented by Java run-time system than their equivalent long forms
C. Assignment operators run faster than their equivalent long forms
D. None of the mentioned

33. Can 8 byte long data type be automatically type cast to 4 byte float data type?

A. TRUE
B. FALSE
C. Can be true or false
D. can not say
   Ans: A)

34. Evaluate the value of the expression?
`6 – 2 + 10 % 4 + 7`
A. 14
B. 12
C. 13
D. 10
   Ans : C)

35. What is/are highest order precedence operator(s) in Java?

A. ( )
B. { }
C. Both A & B
D. None of these
Ans : C)

36. The && and || operators

A. Compare two boolean values
B. Compare two numeric values
C. Combine two boolean values
D. Combine two numeric values

   Ans: C)

37. Which of the following is the correct expression that evaluates to true if the number x is between 1 and 100 or the number is negative?

A. ((x < 100) && (x > 1)) && (x < 0)
B. ((x < 100) && (x > 1)) || (x < 0)
C. (1 > x > 100) || (x < 0)
D. 1 < x < 100 || x < 0
   Ans : B)

38. Which of these is returned by "greater than", "less than" and "equal to" operators?

A. Integers
B. Floating - point numbers
C. Boolean
D. None of the mentioned
   Ans : C)

39. Which of the following operators can operate on a boolean variable?

A. &&
B. ==
C. ?:
D. +=
   Ans : D)

40. Which of these operators can skip evaluating right hand operand?

A. !
B. |
C. &
D. &&
   Ans : D)