day-007-java-variables-and-data-types

1. What is statically typed and Dynamically typed Programming Language?

First, dynamically-typed languages perform type checking at runtime, while statically typed languages perform type checking at compile time. This means that scripts written in dynamically-typed languages (like Groovy) can compile even if they contain errors that will prevent the script from running properly (if at all). If a script written in a statically-typed language (such as Java) contains errors, it will fail to compile until the errors have been fixed.

2. What is the variable in Java?

Variables are containers for storing data values. In Java, there are different types of variables, for example: String - stores text, such as "Hello". String values are surrounded by double quotes. int - stores integers (whole numbers), without decimals, such as 123 or -123.

3. How To Assign a Value To Variable?

type variableName = value;
Where type is one of Java's types (such as int or String), and variableName is the name of the variable (such as x or name). The equal sign is used to assign values to the variable.

4. What are Primitive Data types in Java?

Primitive data types - includes byte , short , int , long , float , double , boolean and char.

5. What are the Identifiers in Java?

Identifiers in Java are names that distinguish between different Java entities, such as classes, methods, variables, and packages. Identifiers include the names of classes, methods, variables, packages, constants, etc. These identifiers are each specified using a specific syntax and naming scheme.

6. List the Operators in Java?

Java supports the following types of operators:

- Arithmetic Operators.
- Assignment Operators.
- Logical Operators.
- Relational Operators.
- Unary Operators.
- Bitwise Operators.
- Ternary Operators.
- Shift Operators.

7. Explain about Increment and Decrement operators and give an examples

Increment Operators are the unary operators used to increment or add 1 to the operand value. The Increment operand is denoted by the double plus symbol (++). It has two types, Pre Increment and Post Increment Operators

Pre-increment Operator:
The pre-increment operator is used to increase the original value of the operand by 1 before assigning it to the expression.

Syntax:
X = ++A;

Post increment Operator:
The post-increment operator is used to increment the original value of the operand by 1 after assigning it to the expression.

Syntax:
X = A++;

Decrement Operator is the unary operator, which is used to decrease the original value of the operand by 1. The decrement operator is represented as the double minus symbol (--). It has two types, Pre Decrement and Post Decrement operators.

Pre Decrement Operator:
The Pre Decrement Operator decreases the operand value by 1 before assigning it to the mathematical expression. In other words, the original value

of the operand first decreases, and then a new value is assigned to the other variable.

Syntax:
B = --A;

Post decrement Operator:
Post decrement operator is used to decrease the original value of the operand by 1 after assigning to the expression.

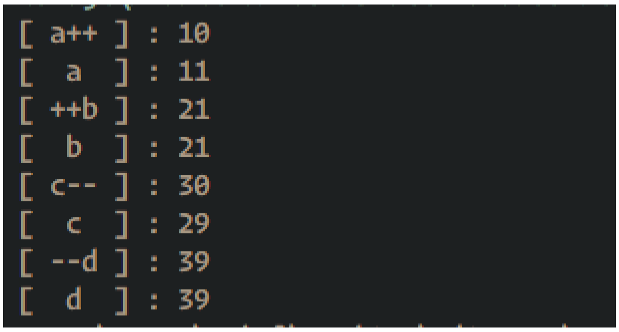
Syntax:
B = A--;

Example:
Input:

`IncrementDrecrement.java`

```
public class IncrementDrecrement{
    public static void main(String[] args) {
        int a = 10;
        int b = 20;
        int c = 30;
        int d = 40;
        // post increment
        System.out.println("[ a++ ] : "+(a++)); // 10
        System.out.println("[  a  ] : "+(a));   // 11
        // pre increment
        System.out.println("[ ++b ] : "+(++b)); // 21
        System.out.println("[  b  ] : "+(b));   // 21
        // post decrement
        System.out.println("[ c-- ] : "+(c--)); // 30
        System.out.println("[  c  ] : "+(c));   // 29
        // pre decrement
        System.out.println("[ --d ] : "+(--d)); // 39
        System.out.println("[  d  ] : "+(d));   // 39
    }
}
```

Output:



```
[ a++ ] : 10
[  a  ] : 11
[ ++b ] : 21
[  b  ] : 21
[ c-- ] : 30
[  c  ] : 29
[ --d ] : 39
[  d  ] : 39
```