

ASSIGNMENT5

1)What is statically typed and dynamically typed Programming language?

Statically Typed Language -: In statically typed programming languages, type checking occurs at compile time. At compile time, source code in a specific programming language is converted to a machine-readable format. This means that before source code is compiled, the type associated with each and every single variable must be known. **Examples - C , C++ ,Java etc.**

Dynamically Typed Language -: In dynamically typed languages, type checking takes place at runtime or execution time. This means that variables are checked against types only when the program is executing. **Some examples** of programming languages that belong to this category are **Python, JavaScript .**

2)What is the variable in Java?

In Java, a variable is a container which contains the value of data.

Each variable in Java has a specific type, which determines the size and layout of the variable's memory; the range of values that can be stored within that memory; and the set of operations that can be applied to the variable.

3)How to assign value to variable?

data_type variable_name = value;

4)What are Primitive data types in Java?

A primitive data type specifies the size and type of variable values, and it has no additional methods.

DATATYPE	SIZE	DESCRIPTION
<u>byte</u>	1 byte	-2^{8-1} to $2^{8-1} -1$
<u>short</u>	2 bytes	-2^{16-1} to $2^{16-1} -1$
<u>Int</u>	4 bytes	-2^{32-1} to $2^{32-1} -1$
<u>long</u>	8 bytes	-2^{64-1} to $2^{64-1} -1$
<u>float</u>	4 bytes	Stores fractional numbers. Sufficient for storing 6 to 7 decimal digits.

<u>double</u>	8 bytes	Stores fractional numbers. Sufficient for storing 15 decimal digits.
<u>boolean</u>	1 bit	Stores true or false values.
<u>char</u>	2 bytes	Stores a single character/letter or ASCII values

5)What are the Identifiers in Java?

All Java variables must be identified with **unique names**. These unique names are called identifiers.

6)List the Operators in Java

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

7)Explain about Increment and Decrement operators and give an example.

The decrement (–) and increment (++) operators are special types of operators used in programming languages to decrement and increment the value of the given variable by 1 (one), respectively.

Example-:

```
class IncrementOperator {
    public static void main(String[] args) {
        int x = 1;
```

```
        x = x++ + ++x + x++ + ++x + ++x;

        System.out.println("Value of x : " + x);
    }
}
```

Output : Value of x : 18