1. What is Statically Typed and Dynamically Typed Programming Language?

Statically Typed Languages:

- In statically typed languages, the type of a variable is known at compile time. This means you must declare the type of variables when writing the code.
- Examples: Java, C, C++, Swift
- Benefits: Type checking at compile time can prevent many types of errors before the code is run, potentially making the code more reliable and performant.
- Example in Java:

```
int number = 10;
```

Dynamically Typed Languages:

- In dynamically typed languages, the type of a variable is known at runtime. You do not have to declare the type of variables explicitly.
- Examples: Python, JavaScript, Ruby
- Benefits: More flexibility and less boilerplate code since you don't need to define variable types.
- Example in Python:

```
number = 10
```

2. What is the Variable in Java?

A variable in Java is a container that holds data that can be changed during the execution of a program. It has a data type that determines what kind of data it can store (e.g., int, float, String) and a name to reference it.

3. How To Assign a Value To Variable?

To assign a value to a variable in Java, you use the assignment operator (=). Here is the syntax:

```
dataType variableName = value;
```

Example:

```
int number = 10;
String name = "Alice";
```

4. What are Primitive Data Types in Java?

Primitive data types in Java are the most basic data types that are not objects. They include:

1. **byte** - 8-bit integer
2. **short** - 16-bit integer
3. **int** - 32-bit integer
4. **long** - 64-bit integer

5. **float** - 32-bit floating point
6. **double** - 64-bit floating point
7. **char** - a single 16-bit Unicode character
8. **boolean** - represents true or false

5. What are the Identifiers in Java?

Identifiers in Java are names given to elements such as variables, methods, classes, etc. They must follow these rules:

- Can contain letters (a-z, A-Z), digits (0-9), underscore (_), and dollar sign ($)
- Must not begin with a digit
- Are case-sensitive
- Cannot be a reserved keyword in Java

Example of identifiers:

```
int age;
String firstName;
double $salary;
```

6. List the Operators in Java

Java provides a variety of operators:

- **Arithmetic Operators:** `+`, `-`, `*`, `/`, `%`
- **Unary Operators:** `+`, `-`, `++`, `--`, `!`
- **Assignment Operators:** `=`, `+=`, `-=`, `*=`, `/=`, `%=`
- **Relational Operators:** `==`, `!=`, `>`, `<`, `>=`, `<=`
- **Logical Operators:** `&&`, `||`, `!`
- **Bitwise Operators:** `&`, `|`, `^`, `~`, `<<`, `>>`, `>>>`
- **Ternary Operator:** `? :`
- **Instanceof Operator**

7. Explain about Increment and Decrement Operators and give examples

Increment Operator (++):

- Used to increase the value of a variable by 1.
- There are two types:
    - **Pre-increment (`++variable`)**: Increases the value before it is used in an expression.
    - **Post-increment (`variable++`)**: Increases the value after it is used in an expression.

Example:

```
int a = 5;
int b = ++a; // a is incremented to 6, then b is assigned the value of 6
int c = a++; // c is assigned the value of 6, then a is incremented to 7
```

Decrement Operator (`--`):

- Used to decrease the value of a variable by 1.
- There are two types:
  - **Pre-decrement (`--variable`)**: Decreases the value before it is used in an expression.
  - **Post-decrement (`variable--`)**: Decreases the value after it is used in an expression.

Example:

```
int x = 5;
int y = --x; // x is decremented to 4, then y is assigned the value of 4
int z = x--; // z is assigned the value of 4, then x is decremented to 3
```

These operators are often used in loops or iterations to update loop variables.