Strings in Java

Assignment

1. What is a String in Java?

Ans 1. In Java, a String is a sequence of characters. It is a class Provided by the Java standard library to handle textual data. Strings are immutable, meaning once created, their values cannot be changed. You can perform various operations on strings, such as concatenation, substring extraction, and more.

2. Types of String in Java are?

Ans 2. In Java, there are two types of strings:

(i) Immutable strings : Immutable Strings means once created, its value cannot be changed.

(ii) Mutable Strings : These are mutable sequences of characters, allowing modifications to the content of the string.

3. In how many ways can you create string objects in Java?

Ans 3. In Java, you can create string objects in two ways: using the String literal and using the String constructor. For examples:

(i) Using String literal: ‘String str1 = “Hello”;

(ii) Using String constructor: ‘String str2 = new String(“World”);

4. What is a String Constant Pool?

Ans 4. The String Constant Pool is a data structure used by programming languages, like Java, to optimize memory usage and improve performance when dealing with string. It is a special area in memory where unique string literals are stored only once. When multiple variables or references use the same string value, they all point to the same memory location in the pool, reducing redundant memory allocation.

5. What do you mean by mutable and immutable objects?

Ans 5. Mutable objects can be changed after creation, meaning their state or content can be modified. On the other hand, immutable objects cannot be changed once they are created; any attempt to modify them creates a new object with the updated value. Examples of mutable objects include lists and dictionaries, while examples of immutable objects are strings and tuples.

6. Where exactly is the string constant pool located in the memory?

Ans 6. The string constant pool is typically located in the Java Virtual Machine’s heap memory. It is a special area within the heap that stores unique String literals to optimize memory usage by reusing the same Strings instead of creating duplicates.