Strings in Java
Assignment Questions

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1. What is a String in java?

Ans → In Java, a String is an object that represents a sequence of characters. It is a built-in class in the Java standard library, and is commonly used to represent text data. A String object is immutable, which means that once it is created, its value cannot be changed.

2. Types of String in java?

Ans →In Java, there are two types of strings:

String literals: A string literal is a sequence of characters enclosed in double quotes, such as "Hello, world!". String literals are used to create String objects without explicitly calling the constructor of the String class. Java automatically creates a new String object for each string literal encountered in a program, and these objects are stored in the string pool. String literals are immutable and cannot be modified.

String objects: A string object is created by calling the constructor of the String class, such as new String("Hello, world!"). String objects are mutable and can be modified using methods such as substring(), concat(), and replace(). String objects are not stored in the string pool by default, and must be explicitly interned using the intern() method to be added to the pool.

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

Ans →In Java, there are several ways to create String objects:

I. Using a string literal
II. Using the new operator
III. Using a character array
IV. Using a StringBuffer or StringBuilder

4. What is a string constant pool?

Ans →The string constant pool is a special area of memory in Java that stores a pool of unique String literals. When a string literal is encountered in a program, Java checks if the literal already exists in the string constant pool. If it does, Java returns a reference to the existing String object in the pool, rather than creating a new one. This helps to conserve memory, as multiple instances of the same String literal can share the same object in the pool.

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

Ans → An object is said to be mutable if its state can be modified after it has been created. This means that you can change the values of its properties or fields without creating a new object. Examples of mutable objects in Java include arrays, StringBuilder, and ArrayList.

On the other hand, an object is said to be immutable if its state cannot be modified after it has been created. This means that any attempt to change the values of its properties or fields results in a new object being created with the updated values. Examples of immutable objects in Java include String, Integer, and LocalDate.

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

Ans →In Java, the String constant pool is a special area of memory that is located in the heap. The heap is a region of memory that is dedicated to storing objects, and it is shared by all threads in a Java program.