Ques 1. What is a String in Java?

Ans:- In Java, a "String" is a class that represents a sequence of characters. It is used to store and manipulate textual data. Strings are widely used in Java programming for various purposes, such as representing names, messages, file paths, and much more.

Ques 2. Types of String in Java are ?

Ans:- There are three main types of String in java:

1. **String (java.lang.String):**

This is the standard and most commonly used type of string in Java. As mentioned earlier, the String class represents a sequence of characters and is immutable.

1. **StringBuilder (java.lang.StringBuilder):**

StringBuilder is a mutable sequence of characters, which means you can modify its content after creation without creating new objects.

1. **StringBuffer (java.lang.StringBuffer):**

StringBuffer is similar to StringBuilder in that it is also a mutable sequence of characters.

Ques 3. In how many ways can you create String object in java?

Ans:-There are two ways to create String object in java:

1. Using the new keyword:

String str1 = new String("Hello, World!");

1. Using String literal:

String str2=”Hello World”;

Ques 4. What is a String constant pool?

Ans:- The String constant pool is a special area of memory in the Java Virtual Machine (JVM) that is used to store unique String objects. It is a part of the Java memory model and is used to optimize memory usage for strings.

In Java, when you create a string using a string literal (e.g., String str = "Hello";), the JVM checks if a string with the same value already exists in the constant pool. If it does, the existing object reference is returned, and a new object is not created. This process is known as "string interning."

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

Ans:- **Mutable Objects:**

Mutable objects are objects whose state can be modified after they are created. This means you can change their internal data, properties, or fields.

**Immutable** **Objects**:

Immutable objects are objects whose state cannot be changed after they are created. Once an immutable object is created, its data remains fixed throughout its lifetime.

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

Ans:- In Java, the String constant pool is located within the heap memory, not in the Metaspace. The heap memory is where objects, including String objects, are dynamically allocated during the execution of a Java program. The String constant pool is a special area within the heap that holds unique instances of String literals.