

1. What is a String in Java?

- In Java, a String is an object that represents a sequence of characters. It's widely used for text manipulation, storing user input, and more. Strings are immutable, meaning their values cannot be changed after creation.

2. Types of String in Java:

- In Java, there are two types of strings:
 - Literal Strings: Created using double quotes (e.g., "Hello, World!").
 - String Objects: Created using the new keyword (e.g., new String("Hello")).

3. Ways to Create String Objects in Java:

We can create string objects in several ways:

- Using literals (e.g., "Hello").
- Using the new keyword (e.g., new String("World")).
- By converting other data types (e.g., String.valueOf(42)).
- Using string concatenation (e.g., "Hello" + "World").

4. String Constant Pool:

- The string constant pool is a special area in memory where literal strings are stored. It optimizes memory usage by reusing identical string literals.

5. Mutable vs. Immutable Objects:

- Mutable: Objects whose state can be modified after creation (e.g., StringBuilder).
- Immutable: Objects whose state cannot be changed once created (e.g., String).

6. Location of String Constant Pool:

- The string constant pool resides in the heap memory, specifically within the Java Virtual Machine (JVM).