# 1. What is a Mutable String in Java? Explain with an example.

In Java, **mutable strings** are those whose content can be changed after creation. Java provides **StringBuilder** and **StringBuffer** classes for mutable strings.

**Example: Using StringBuilder (Recommended)**

java
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```java
public class MutableStringExample {
    public static void main(String[] args) {
        StringBuilder sb = new StringBuilder("Hello");
        sb.append(" World!");  // Modifying the existing string
        System.out.println(sb);  // Output: Hello World!
    }
}
```

- **String** is **immutable**: Any modification creates a new object.
- **StringBuilder** and **StringBuffer** are **mutable**: They modify the existing object.

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# 2. WAP to Reverse a String (e.g., "PWSKILLS" → "SLLIKSPW")

java
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```java
public class ReverseString {
    public static void main(String[] args) {
        String str = "PWSKILLS";
        String reversed = new StringBuilder(str).reverse().toString();
        System.out.println("Reversed String: " + reversed);
    }
}
```

**Output:**

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```
Reversed String: SLLIKSPW
```

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## 3. WAP to Reverse a Sentence While Preserving the Position ("Think Twice" → "kniht eciwt")

java
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```java
public class ReverseWords {
    public static void main(String[] args) {
        String sentence = "Think Twice";
        String[] words = sentence.split(" ");   // Split by space
        StringBuilder result = new StringBuilder();

        for (String word : words) {
            result.append(new StringBuilder(word).reverse()).append("
");
        }

        System.out.println("Reversed Sentence: " +
result.toString().trim());
    }
}
```

**Output:**

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```yaml
Reversed Sentence: kniht eciwt
```

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## 4. WAP to Sort a String Alphabetically

java
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```java
import java.util.Arrays;
public class SortString {
    public static void main(String[] args) {
        String str = "PWSKILLS";
        char[] charArray = str.toCharArray();
        Arrays.sort(charArray);   // Sorting characters
        System.out.println("Sorted String: " + new String(charArray));
    }
```

```
}
```

**Output:**

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Sorted String: IKLLPSSW
```