Strings in Java
Assignment Questions

Assignment Questions:

1. What is Mutable String in java explain with an example?

Ans → In Java, a mutable string is a string that can be modified, whereas an immutable string is a string that cannot be modified once it is created. The most commonly used mutable string class in Java is StringBuilder.

Example:

```
// create a new StringBuilder object with the initial string "Hello"
StringBuilder sb = new StringBuilder("Hello");

// append some text to the end of the string
sb.append(", world!");

// insert some text at a specific position in the string
sb.insert(5, " there");

// replace a substring with another string
sb.replace(0, 5, "Hi");

// convert the StringBuilder object to a String and print it
String result = sb.toString();
System.out.println(result); // Output: "Hi there, world!"
```

2. WAP to reverse a String
   Input: "PWSKILLS"
   Output: "SLLIKSPW"

Ans →

```
public class Reverse
{
    public static void main(String[] args) {
        String string = "PWSKILLS";
        //Stores the reverse of given string
        String reversedStr = "";

        //Iterate through the string from last and add each character to variable reversedStr
        for(int i = string.length()-1; i >= 0; i--){
            reversedStr = reversedStr + string.charAt(i);
        }

        System.out.println("Original string: " + string);
        //Displays the reverse of given string
        System.out.println("Reverse of given string: " + reversedStr);
    }
}
```

3. WAP to reverse a sentence while preserving the position

Input: Think Twice
Output: "knihT eciwT"
Ans →

```java
public class Reverse
{
    public static void main(String[] args) {
        String str1 = "Think Twice";
        String str2 = "";
        String[] sarr = str1.split(" ");
        for(String elem :sarr)
        {
            for(int i=elem.length()-1 ; i>=0;i--)
            {
                str2=str2+ elem.charAt(i);
            }
            str2=str2+" ";
        }
        System.out.println("Original sentence: " + str1);
        System.out.println("Reversed sentence: " + str2);
    }
}
```

4. WAP to sort String Alphabetically

Ans →

```java
public class StringSorting {
    public static void main(String[] args) {
        String inputString = "cabed";
        String sortedString = sortString(inputString);
        System.out.println(sortedString); // Output: "abcde"
    }

    public static String sortString(String input) {
        char[] chars = input.toCharArray();
        Arrays.sort(chars);
        return new String(chars);
    }
}
```