

Assignment-3

1. What is a mutable String in java Explain with an example?

In java a mutable string refers to a string object that can be modified after it is created. However there are other classes in Java that provide mutable string functionally such as `StringBuilder` and `StringBuffer`.

Eg: `StringBuilder mutableString = new StringBuilder("Hello");`
`mutableString.append("World");`

This append method add world at last of hello and Hello World is printed

2. Write a program to reverse a String

Input : "PWSKILLS" and Output: "SILLIKSPW"

```
package StringAssignment;

public class ReversStringPWskill {

    public static void main(String[] args) {
        String originalString = "PWSKILLS";
        String reversedString = reverseString(originalString);
        System.out.println(reversedString);
    }

    public static String reverseString(String str) {
        StringBuilder reversed = new StringBuilder();
        for (int i = str.length() - 1; i >= 0; i--) {
            reversed.append(str.charAt(i));
        }
        return reversed.toString();
    }

}
```

3. WAP to reserve a sentence while preserving the position

Input : Think Twice and output: "Kniht eciwt"

```
package StringAssignment;

public class ReverseSentence {
```

```

public static void main(String[] args) {
    String originalSentence = "Think Twice";
    String reversedSentence = reverseSentence(originalSentence);
    System.out.println(reversedSentence); // Output: olleH dlroW! woH era uoy?
}

public static String reverseSentence(String sentence) {
    String[] words = sentence.split(" ");
    StringBuilder reversed = new StringBuilder();

    for (int i = 0; i < words.length; i++) {
        String word = words[i];
        StringBuilder reversedWord = new StringBuilder(word).reverse();
        reversed.append(reversedWord);

        if (i != words.length - 1) {
            reversed.append(" ");
        }
    }

    return reversed.toString();
}
}

```

4. WAP to sort a String Alphabetically?

```

package StringAssignment;

import java.util.Arrays;

public class SortStringAlphabetically {
    public static void main(String[] args) {

        String originalString = "programming";
        String sortedString = sortStringAlphabetically(originalString);
        System.out.println(sortedString);
    }

    public static String sortStringAlphabetically(String str) {
        char[] charArray = str.toCharArray();
        Arrays.sort(charArray);
        return new String(charArray);
    }
}

```

