Lab-4

1. public class ReverseString {

```
public static void main(String[] args) {
    String input = "Hello";
    String reversed = "";

    for (int i = input.length() - 1; i >= 0; i--) {
        reversed += input.charAt(i);
    }

    System.out.println("Original: " + input);
    System.out.println("Reversed: " + reversed);
}
}
```

2. public class ReverseString {

```
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    for (int i = input.length() - 1; i >= 0; i--) {
        reversed += input.charAt(i);
    }

    System.out.println("Original: " + input);
    System.out.println("Reversed: " + reversed);
}
}
```

3.

```
import java.util.Scanner;
public class VowelConsonantCounter {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String input = sc.nextLine();
         int vowels = 0, consonants = 0;
         input = input.toLowerCase();
         for (int i = 0; i < input.length(); i++) {
            char ch = input.charAt(i);
            if (Character.isLetter(ch)) { // Check if it's an alphabet
                if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
                    vowels++;
                } else {
                    consonants++;
                }
            }
        }
        System.out.println("Vowels: " + vowels);
        System.out.println("Consonants: " + consonants);
    }
}
```

5.

```
import java.util.Scanner;

public class WordCount {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String str = sc.nextLine();

        int count = 1; // Start from 1 assuming at least one word

        for (int i = 0; i < str.length(); i++) {
            if (str.charAt(i) == ' ') {
                count++;
            }
        }

        System.out.println("Number of words: " + count);
    }
}
```

6.

```
import java.util.Arrays;
import java.util.Scanner;

public class AnagramCheck {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
         System.out.print("Enter first string: ");
      String str1 = sc.nextLine();

      System.out.print("Enter second string: ");
      String str2 = sc.nextLine();
     str1 = str1.replaceAll("\\s", "").toLowerCase();
      str2 = str2.replaceAll("\\s", "").toLowerCase();
      if (str1.length() != str2.length()) {
         System.out.println("Not anagrams");
      } else {
         char[] ch1 = str1.toCharArray();
         char[] ch2 = str2.toCharArray();
         Arrays.sort(ch1);
         Arrays.sort(ch2);
        if (Arrays.equals(ch1, ch2)) {
            System.out.println("The strings are anagrams.");
         } else {
            System.out.println("The strings are not anagrams.");
         }
      }
   }
```

7.

```
public class StringBufferDemo {
    public static void main(String[] args) {
        StringBuffer sb = new StringBuffer("Hello");
        sb.append(" World");
        System.out.println("After append: " + sb);  // Hello World
        sb.insert(6, "Java ");
        System.out.println("After insert: " + sb);  // Hello Java World
        sb.delete(5, 10); // removes from index 5 to 9 (exclusive of 10)
        System.out.println("After delete: " + sb);  // HelloWorld
        sb.replace(0, 5, "Hi");
        System.out.println("After replace: " + sb); // HiWorld
    }
}
```