Create a Class Called "StringObjectives".Here you should use "Stacks" for the implement the Program.

1. Implement a method named

Create a method called "ReverseString" that takes the user input string and converts it into the reverse.

Sample Output:

input -> Hello
output ->olleH

1. Implement a method named

Create a method called "countVowels" that takes the user input string and counts the vowels of the string.

Sample Output:

input ->Hello
no.ofVowels ->2

Create a class called "testString" and implement the main method on it.In here you should take user input and pass to the "StringObjectives"
class and display the output.

ANSWER:

```
import java.util.Scanner;
import java.util.Stack;

public class StringObjectives {

    public static String reverseString(String input) {
        Stack<Character> stack = new Stack<>();
        for (char c : input.toCharArray()) {
            stack.push(c);
        }
        StringBuilder reversed = new StringBuilder();
```

```
        while (!stack.isEmpty()) {
            reversed.append(stack.pop());
        }
        return reversed.toString();
    }

    public static int countVowels(String input) {
        int count = 0;
        String lowercaseInput = input.toLowerCase();
        for (char c : lowercaseInput.toCharArray()) {
            if (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u') {
                count++;
            }
        }
        return count;
    }
}



import java.util.Scanner;

public class TestString {

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a string: ");
        String input = scanner.nextLine();

        String reversed = StringObjectives.reverseString(input);
        int vowelCount = StringObjectives.countVowels(input);

        System.out.println("Reverse String: " + reversed);
        System.out.println("Number of vowels: " + vowelCount);
    }
}
```