# Assignment #5

## Problem Description

Design and implement a java application (StringManipulation.java) that reads a sentence (one line of text) from the user, it then displays a menu for different tasks.
The following is a screen sample of the program:

> Please enter a sentence:
> **A digital computer stores information as numbers (1234).**
>
> Please enter:
> 1. To display the number of words in the sentence.
> 2. To display the number of vowel characters in the sentence.
> 3. To display the word with the most number of characters.
> 4. To display the word with the most vowels.
> 5. To enter a new statement.
> 6. To terminate the program.
>
> **1**
> There are 8 words in "A digital computer stores information as numbers (1234)."
>
> Please enter:
> 1. To display the number of words in the sentence.
> 2. To display the number of vowel characters in the sentence.
> 3. To display the word with the most number of characters.
> 4. To display the word with the most vowels.
> 5. To enter a new statement.
> 6. To terminate the program.
>
> **2**
> There are:
>     4 a's
>     3 e's
>     4 i's
>     4 o's
>     2 u's
> in "A digital computer stores information as numbers (1234)."
>
> Please enter:
>  1. To display the number of words in the sentence.
>  2. To display the number of vowel characters in the sentence.
>  3. To display the word with the most number of characters.

4. To display the word with the most vowels.
5. To enter a new statement
6. To terminate the program.

**3**

The longest word is:  information

Please enter:
1. To display the number of words in the sentence.
2. To display the number of vowel characters in the sentence.
3. To display the word with the most number of characters.
4. To display the word with the most vowels.
5. To enter a new statement
6. To terminate the program.

**4**

The word with the most vowels is: information

Please enter:
1. To display the number of words in the sentence.
2. To display the number of vowel characters in the sentence.
3. To display the word with the most number of characters.
4. To display the word with the most vowels.
5. To enter a new statement
6. To terminate the program.

**5**

Please enter a new statement:
   Java is an Object-Oriented computer programming language.

Please enter:
1. To display the number of words in the sentence.
2. To display the number of vowel characters in the sentence.
3. To display the word with the most number of characters.
4. To display the word with the most vowels.
5. To enter a new statement
6. To terminate the program.

**6**

Program terminates

**Notes:**

- Use the Scanner nextLine method to read the sentence from the user.
- Create a method for each task.
- In your main method read the sentence from the user, then display the menu, and use a switch statement to call appropriate method for each task.
- The program should be repeated until the user enters **6** to terminate.
- Please call your class StringManipulation

## Marking Scheme

[15 marks] Presentation/Style: Organization, readability, descriptive
identifier, indentation, bracket placement.

[70 marks] Correctness: Program works without bugs.

[15 marks] Documentation: Internal