# LAB211Assignment

Type: Short Assignment

Code: J1.S.P0020

LOC: 39 Slot(s): 1

#### Title

Analyze the user input string.

# **Background**

N/A

# **Program Specifications**

Write a program to analyze the input string and display the following information:

- Display the number of characters in the string.
- Display the all characters, uppercase characters, lowercase characters.
- Display the list of number, list of even numbers, list of odd numbers, and list of square numbers.
- Display the special characters

#### **Function details:**

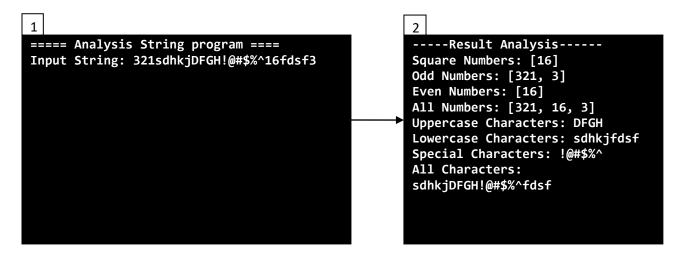
Function 1: Display Gui And Input Data.

- User runs program. The program prompts user to input data.
- Auto next Function2.

#### Function 2: Perform function

- Analyze and display result
  - Display the number of characters in the string.
  - Display the all characters, uppercase characters, lowercase characters.
  - Display list of numbers, list of even numbers, list of odd number, and list of square numbers
  - Display the special characters
- Exit the program.

### **Expectation of User interface:**



## **Guidelines**

## Student must implement methods

- getNumber
- getCharacter

## in startup code.

#### Hint:

- Create AnalysisStringclass which includes the two methods as described in Functional Requirements section.
  - Method getNumber to retrieve the following results
    - List all numbers (using Regular Expressions)
    - List even numbers (number% 2 == 0)
    - List odd numbers (number% 2!= 0)
    - List square numbers (using Math.sqrt)
  - Method getCharacter to retrieve the following results
    - String of all characters
    - String of special characters (using Regular Expressions)
    - String of uppercase characters (usingCharacter.isUpperCase())
    - String of lowercase characters (opposite)

### **Function 1:** Analyze the number types

- Method name: public HashMap<String, List<Interger>>getNumber(String input)
  - Input:
    - input: the input string.
  - Return: analysis result.

## Function 2: Analyze the character types and special characters

- Method name: public HashMap<String, StringBuilder>getCharacter(String input)
  - Input:
    - input: the input string.
  - Return: analysis result.