

# LAB211 Assignment

Type:  
Code:  
LOC:  
Slot(s):

Short Assignment  
J1.S.P0067  
39  
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:

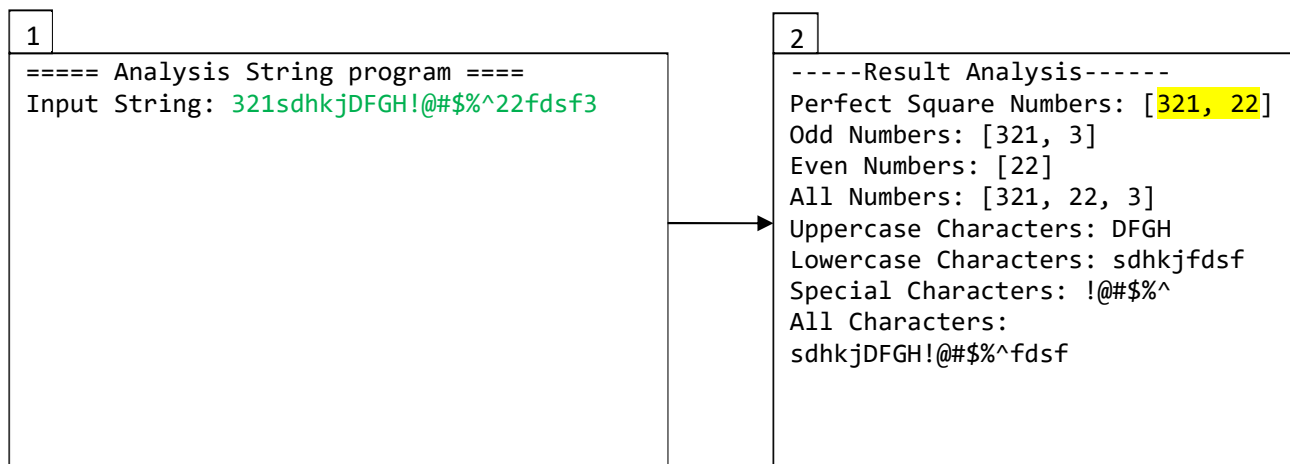
**Function 1:** Display Gui And Input Data.

- User runs program. The program prompts user to input data.
- Auto next **Function 2**.

**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 AnalysisString class which includes the two methods as described in Functional Requirements section.
  - o 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)
  - o Method getCharacter to retrieve the following results
    - String of all characters
    - String of special characters (using Regular Expressions)
    - String of uppercase characters (using Character.isUpperCase())
    - String of lowercase characters (opposite)

**Function 1:** Analyze the number types

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

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

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