

LAB211Assignment

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:

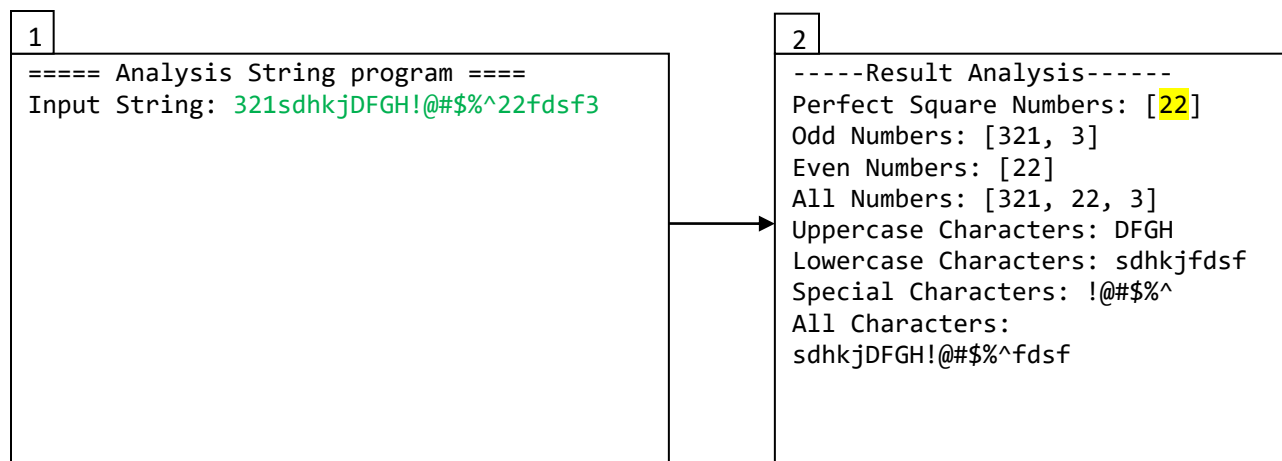
Function 1: Display Gui And Input Data.

- User runs program. The program prompts user to input data.
- Auto next **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 Analysis String class 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 (using `Character.isUpperCase()`)
 - String of lowercase characters (opposite)

Function 1: Analyze the number types

- 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

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