LAB211Assignment

Type:	**Short Assignment**
Code:	**J1.S.P0050**
LOC:	**72**
Slot(s):	**1**

Title

Solving the equation, find the square numbers, even numbers, and odd numbers.

Background

N/A

Program Specifications

Design a program that lets users input coefficients of superlative and quadratic equations. Display the odd, even and square numbers from input coefficients.

Function details:

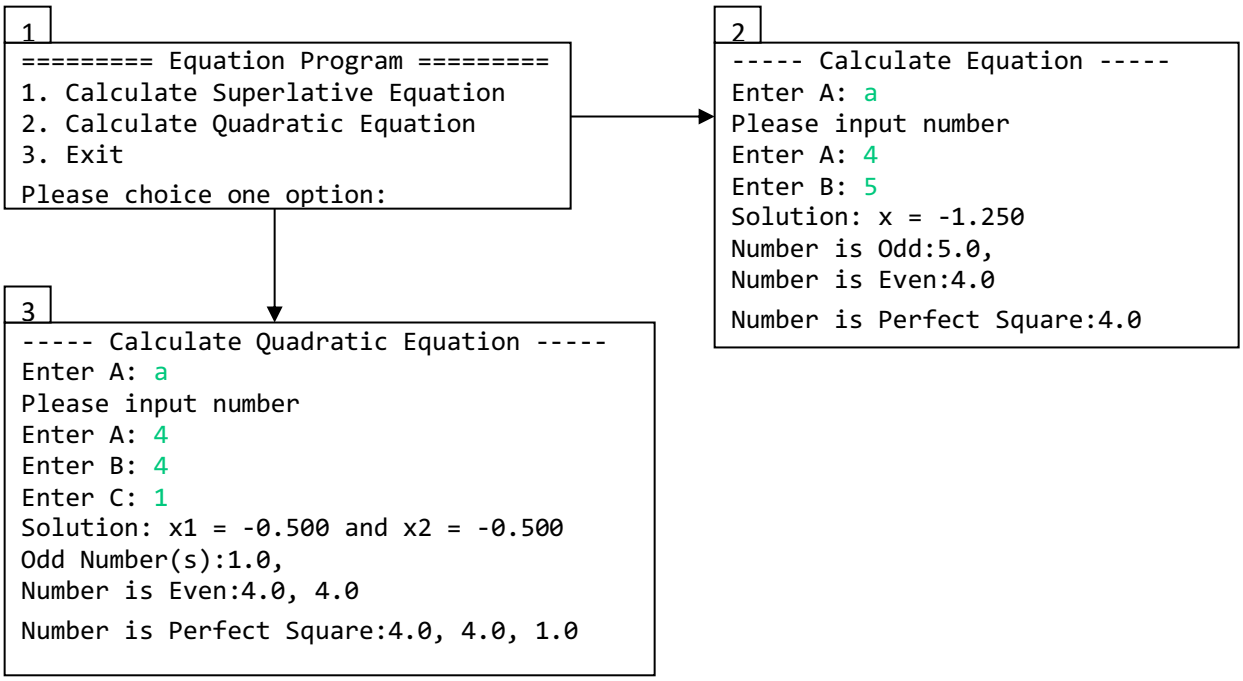
Function 1: Display a menu and ask users to select an option.

- Users run the program. The program prompts users to select an option.
- Users select an option, perform **Function2**.

Function 2: Perform function based on the selected option..

- Option 1: Calculate Superlative Equation
  - The require user to input coefficients A, B
  - Validate inputted values (A, B must be valid numbers)
  - Calculate the solution x and display it on the screen
  - Find and display even, odd and square numbers from inputted coefficients
  - Return to the main screen
- Option 2: Calculate Quadratic Equation
  - The require user to input coefficients A, B, C
  - Validate inputted values (A, B, C must be valid numbers)
  - Calculate the solution x1, x2 and display them on the screen
  - Find and display even, odd and square numbers from inputted coefficients
  - Return to the main screen.1
- Option 3:Exit the program

Expectation of User interface:



Guidelines

Student must implement the following methods:

calculateEquation

calculateQuadraticEquation

in startup code.

Recommend:

Find the square number by using Math.sqrt to root 2, find odd as a% 2! = 0.

Use public Floatcheckin (String floatString) in class Number to check if a, b, c are numerical values.

Use public boolean isOdd (float number)function to check odd number or not.

Use method public boolean isPerfectSquare (float number) to check the number is a local number or not.

Function 1: Solving superlative equation

- Must write the function: public List <Float> calculateEquation (float a, float b)
    - Input:
        - a: a value
        - b: b value
- Return: list (no solution = null, infinitely many solutions = empty).

Function 2: Solving quadratic. Must write the function: public List<Float> calculateQuadraticEquation(float a, float b, float c)

- Input: a - the value of a; b: the value of b; c: the value of c.
- Return Value: list (where no solution = null, infinitely many solutions = empty).