

Project Report:

Critical Thinking 5 – Grocery Price Calculator

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CSC372: Programming 2

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This documentation is part of the Critical Thinking 5 Assignment from CSC372: Programming 2 at Colorado State University Global. This Project Report is an overview of the program's functionality and testing scenarios including console output screenshots. The program is coded in Java JDK-21; and is named Critical Thinking 5 (Grocery Price Calculator). The program is composed of the GroceryCalculator class that extends the Application class from the JavaFX library.

The Assignment Direction:

Option #1: Implementing Recursion to Provide a Product

Using recursion, create a program that will allow a user to enter five numbers. The program will provide the product of all five numbers using recursive methods.

Submit screenshots of your program's execution and output. Include all appropriate source code in a zip file.

Students must use appropriate version control for all programmatic assignments created. GIT repositories should be established and screen captures of repositories submitted with each assignment.

⚠ My notes:

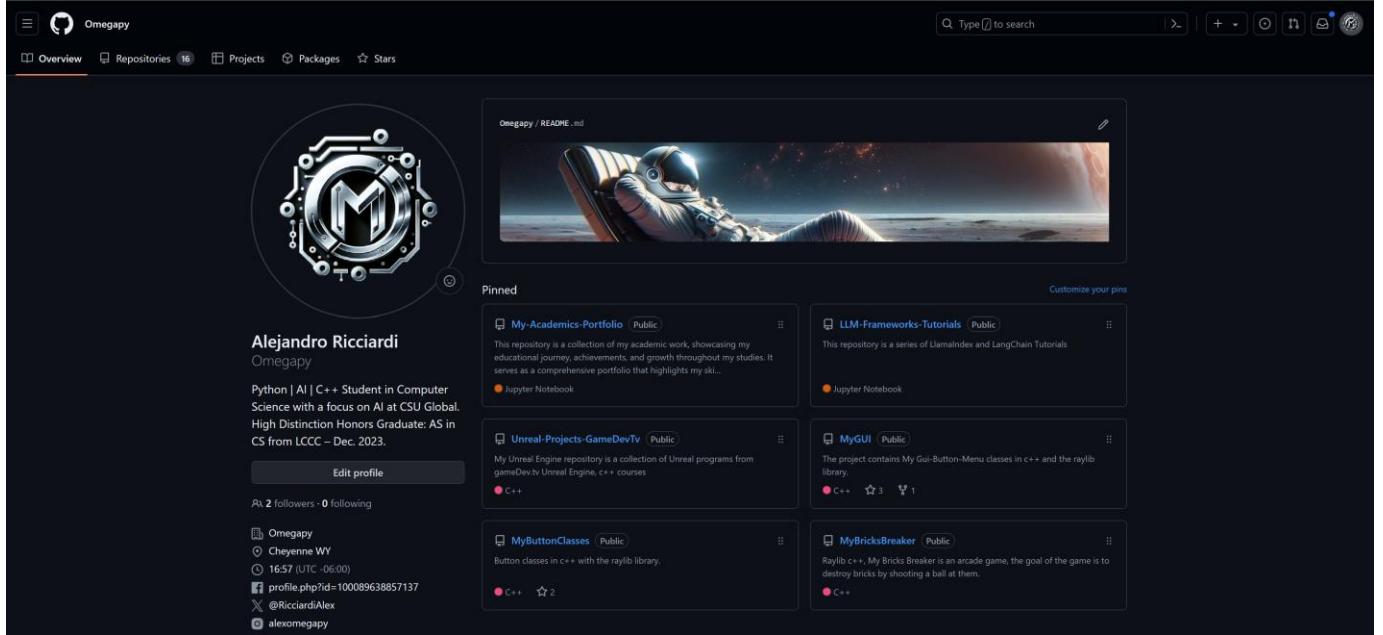
- I got permission from Dr. Cooper to use the JavaFX library to display the program outputs.
- I added my own icon to the window frame – logo.png
- **For the source code please see GroceryCalculator.java.**

My Program Description:

Grocery Price Calculator is a small JavaFX program that calculates the total sum of user-inputted grocery prices. It calculates the total cost using recursion.

Git Repository

This is a picture of my GitHub page:



I use [GitHub](#) as my Distributed Version Control System (DVCS), the following is a link to my GitHub, [Omegapy](#).

My GitHub repository that is used to store this assignment is named [My-Academics-Portfolio](#) and the link to this specific assignment is:

<https://github.com/Omegapy/My-Academics-Portfolio/tree/main/Programming-2-CSC372/Critical-Thinking-5>

Classes Description:

- **GroceryCalculator Class:**

It extends the JavaFX Application class. It is a GUI that accepts user grocery item price inputs, validates inputs, and calculates and displays the items' prices sum after 5 items were entered or after the 'Calculate Total' button was selected. The class contains the main method.

Screenshot

Program Functionality

Figure 1

Welcome Window

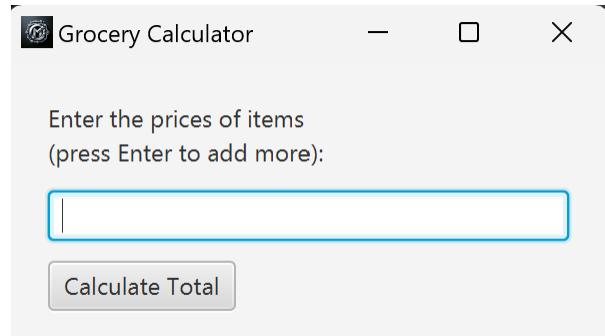
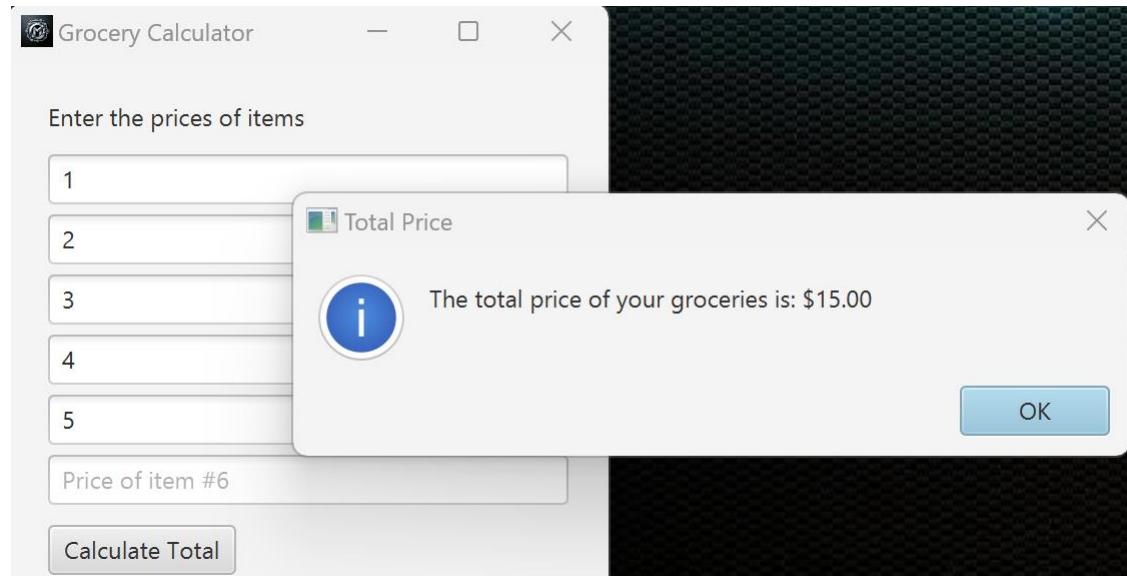


Figure 2

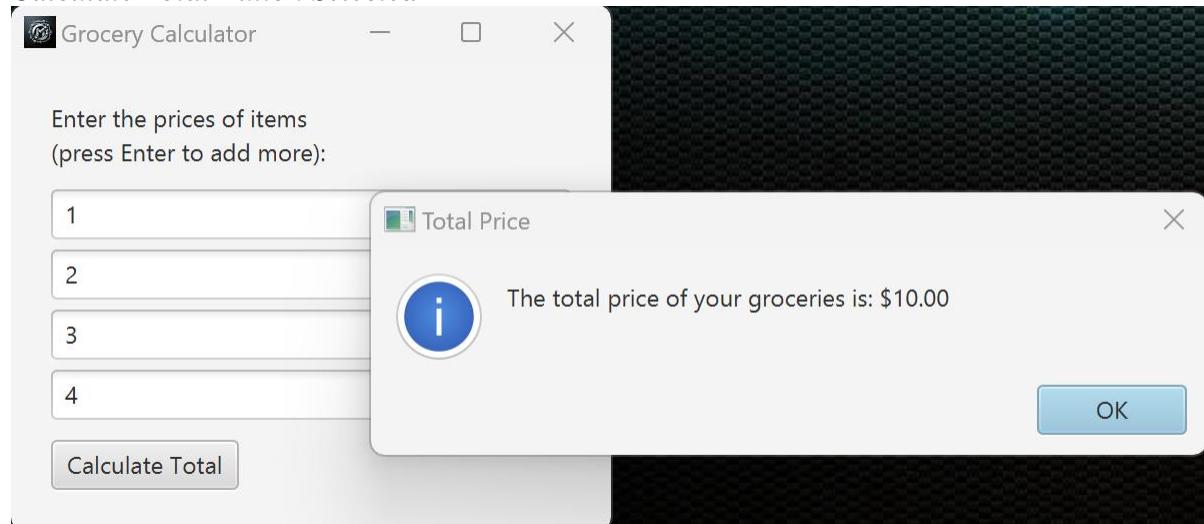
Five Price Entered



Note: The total price of the groceries was computed recursively. The total price was computed after 5 prices were entered by the user to meet the assignment requirement ‘create a program that will allow a user to enter five numbers.’

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Figure 3
Calculate Total Button Selected



Note: The user clicked the 'Calculate Total' button.

Input Validation

Figure 4
Invalid Input Enter Key Pressed

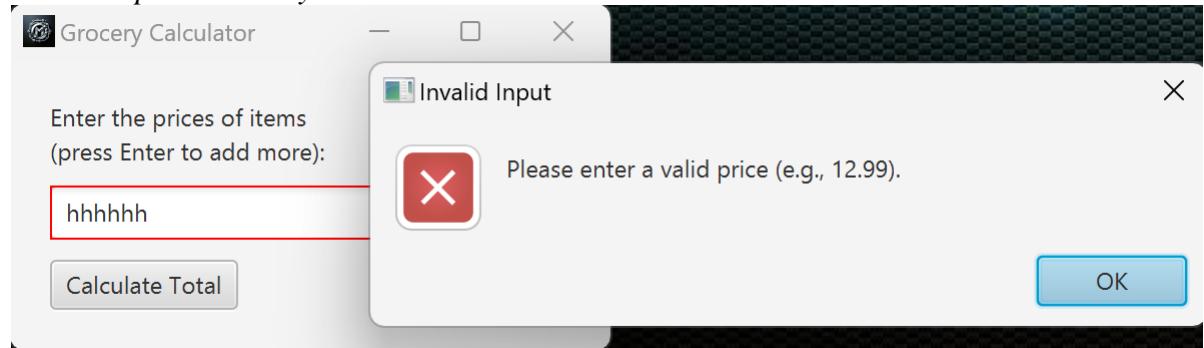
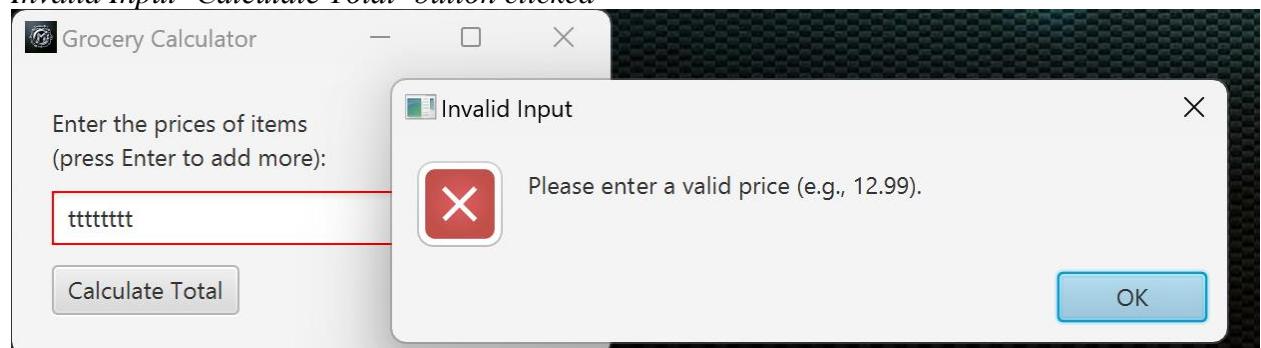
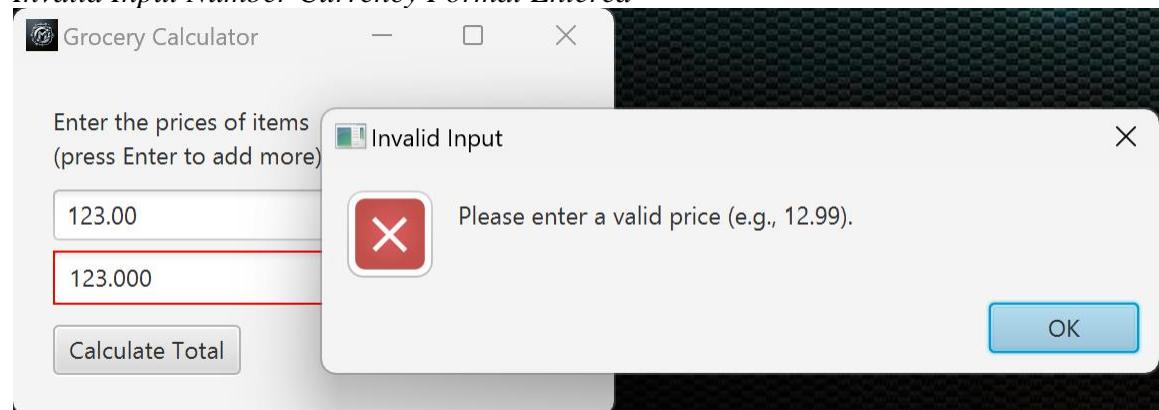


Figure 5
Invalid Input 'Calculate Total' button clicked



Note: An invalid input and the 'Calculate Total' button was clicked (The 'enter' key was not pressed).

Figure 6*Invalid Input Number Currency Format Entered*

As shown in Figure 1 through Figure 6 the program runs without any issues displaying the correct outputs as expected.