OVERVIEW

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This project was created in MS Visual Studio 2019 Windows Console App (.Net Template)(C#). This project implements a calculator that can undo operations. The undo feature is implemented using a generic Stack data structure. The user can add, subtract, multiply, and divide. The user can also undo operations, clear the calculator, and exit the calculator program.

“The console is an operating system window where users interact with the operating system or with a text-based console application by entering text input through the computer keyboard, and by reading text output from the computer terminal” (Console Class, n.d., Remarks section, para. 1).

PROCESSING LOGIC

This project implements a calculator that can undo operations. The undo feature is implemented using a generic Stack data structure. The user can add, subtract, multiply, and divide. The user can also undo operations, clear the calculator, and exit the calculator program.

DATA

Input: This program accepts input from the user by prompting them to enter in the numbers they want to calculate, the operations they wish to perform as well as the commands they want to execute such as ‘Clear’.

Desired Output: The app should perform the calculations on the numbers that the user enters.

COMPONENTS

Windows Console App, Command Prompt, Stack, Regular Expressions

UML Diagram

**CalcJ**

-state : string

savedStates : Stack<Calc.Memento>

localOutput : decimal

enteredNumber1 : decimal

enteredNumber2: decimal

enteredOeration: decimal

runTotal : StringBuilder

rtSum : decimal

+Set

+RestoreFromMemento

+SetOutput

+GetOutput

+AddNumbers

+SubtractNumbers

+MultiplyNumbers

+DivideNumbers

+ExitCalculator

-EnterAgainPrompt

-UndoAgainPrompt

TESTING

When I ran the program, I was able to perform the desired calculations and undo to previous states.

REFERENCES

Console Class. (n.d.). Retrieved May 8, 2020 from

<https://docs.microsoft.com/en-us/dotnet/api/system.console?view=netframework-4.8>

Deitel, P. & Deitel, H. (2016). Visual C# How to Program Sixth Edition. Pearson Education.