



Overview

Debugging is an essential skill. Programmers spend a high percentage of their time debugging rather than creating new functionality. For this activity, you will review the code provided. It contains a variety of errors (for example: syntax, logical, and/or run-time errors). Your task is to fix the code and explain how and why you fixed it using in-line comments. If you have any trouble with this assignment, reach out to your instructor early as you will need these skills for Projects One, Two, and Three.

Prompt

For this assignment, you will fix the code provided and explain why and how you fixed it using in-line comments.

1. Open the Virtual Lab by clicking on the link in the [Virtual Lab Access](#) module and then navigate to the Visual Studio IDE. Alternatively, you may wish to open Visual Studio directly from your own machine. Create a new empty Visual Studio project and add an empty C++ source file, then copy the C++ code from the provided [Calculator.cpp](#) file into this new source file. Take your time to review the code, being sure to look for syntax, logic, and run-time errors.
2. Fix any errors that you find. Use in-line comments to explain how and why you fixed the bugs.
3. Test your program. If you found and fixed all the errors, your code should function as specified:
 - a. The code should allow users to enter basic, one operator arithmetic expressions using integers or doubles. Then, it should calculate the result of the expression and output the results. For example, if the user inputs "2 + 2," the calculator should output "2 + 2 = 4."
 - b. The operations the program should perform are addition (+), subtraction (-), multiplication (*), and division (/).
 - c. The user should be asked whether they wish to continue after evaluating each expression. If the user types "Y" or "y," the program should ask for a new arithmetic expression. If the user types "N" or "n," the program should terminate with the message: "Program Finished."

Guidelines for Submission

Submit your debugged CPP file to the assignment submission page. Refer to the Visual Studio Setup Guide you reviewed in the last module, and its section on saving your work, for further guidance on locating and submitting your new CPP file.

Module Two Assignment Rubric

Criteria	Complete (100%)	Proficient (85%)	Not Complete (0%)	Value
Debugging	Debugs code so that no errors remain and calculations work correctly	Meets some "Proficient" criteria, but with errors or omissions such as one or two remaining bugs	Does not attempt criterion	40
Code Functionality	Code functions properly, allowing for basic, one operator arithmetic expressions, using integers or double numbers with decision points	Meets some "Proficient" criteria, but with errors or omissions such as lack of decision points or incorrect one operator calculations (+, -, *, /)	Does not attempt criterion	30
In-Line Comments	Explains how and why bugs were fixed	Meets some "Proficient" criteria, but with errors or omissions such as forgetting to include why and how a bug was fixed	Does not attempt criterion	30

Criteria	Complete (100%)	Proficient (85%)	Not Complete (0%)	Value
Total:				100%