Apex Software

Tech Calculator

User's Manual

Version 1.0

Revision History

Date	Version	Description	Author
12/10/2024	1.0	Initial drafting of user manual	Gage Weaver

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Test Case

1.   Purpose

This document intends to provide a simple and step-by-step guide on how to use Tech Calculator. The "Introduction" section describes how to install the application.

2.   Introduction

Tech calculator is an arithmetic expression evaluator. It takes an expression from a user and will return a result. Its features include accurate evaluation by utilizing the double datatype. As well as supporting all the common mathematical operators present in PEMDAS with the addition of the modulus operator. The steps to install and run the program are straightforward. Enter the following commands into a bash terminal that has support for the g++ compiler. Alternatively you can navigate to the repository below, download the entire "FullProgram" folder and run the commands 4 and 5 while in that directory.

1. git clone https://github.com/Gage-Weaver/Software-Engineering-Term-Project
2. cd Software-Engineering-Term-Project
3. cd FullProgram
4. make
5. ./Calculator

3.   Getting started

After launching the calculator with step 5 from the introduction section you will be prompted to enter an expression. Enter any arithmetic expression using the following operators (+,-,*,/,%,**) as well as parentheses "()". The calculator has support for integer and float calculations. So optionally you can input numbers with decimals. If you need help with using the calculator type in the "help" command, and when you want to exit type "exit".

4.   Advanced features

Tech Calculator has no advanced features. It is built to be a simple, clean, and accurate expression evaluator. Modulus and parentheses support could possibly be considered advanced features compared to simple calculators. Modulus calculates the remainder from division and parentheses support allows for grouping in expressions.

5.   Troubleshooting

Potential issues with the program mostly result in a program crash. If the program crashes please try and re-open the calculator. If crashes persist please run the commands 'make clean' and then 'make'. This will create a fresh instance of the calculator if any of the files had accidentally been modified or deleted.

6.   Examples

After opening the calculator and being prompted to enter an expression you can enter any expression you would like to know the result of! For example try using parentheses like this: "((5+5)**4)". Or try out the modulus operator like so: "6%5". The possibilities are endless, so get out there and explore the world of expressions!

7.   Glossary of terms

The manual utilizes no technical terms, any non-common terms used in the manual are defined as they appear.

8.   FAQ

Q: Can the calculator handle imaginary numbers?

A: No

Q: Can the calculator handle implicit multiplication?

A: No, please be explicit when using multiplication in an expression, for example "5*(3+2)" rather than "5(3+2)"

Q: What operations does the calculator support?

A: The calculator supports the following operations (addition, subtraction, multiplication, division, modulus, exponentiation) with the following operators representing each (+,-,*,/,%,**)