1. **Abstract**

A Go calculator program that allows the calculation of expressions that contain addition, subtraction, multiplication, division, exponentiation, and/or parentheses. Uses two stacks, one for operands and one for the operators. Recursion is used to calculate the expression inside the parenthesis. Once a result is found it prints to the screen and asks for the next expression.

1. **Problem Statement**

Create a Go calculator program that reads in a user expression from console that can be a combination of either addition, subtraction, multiplication, division, exponentiation, and/or parentheses. Then it evaluates the expression and prints out the results.

1. **Approach –design and algorithms**

Starting from the provided *calculator-hint.go* file I approached the design by first adding the ability of using decimal point and float. Then adding the addition, subtraction, multiplication, division, and exponentiation functions that support both integer and float types. After that I started tackling the parenthesis feature which mostly made sense to me recursively because inside the parenthesis, we have another smaller expression. Which made it perfect for recursion calls. So to do that I add 2 stack parameters to evaluate() and apply( ) so that at every level of recursion we can pass the stacks accordingly. And apply the math at that level and the result is then returned in the operand stack.

1. **Results – results and the Golint results**

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1. **Conclusions**

In conclusion, I believe this was an awesome problem to learn about a new language, Go. I find the syntax quite similar to C++ which made it a. lot easy to read the code and understand it. Though there is a lot more to learn.