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Data Structures

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April 24, 2016

Homework 4 Solution

For this homework solution, I have created a stack data structure to parse and evaluate an expression. It uses two stacks one containing values including numbers and variables and the other one containing operators including multiplication, division, parenthesis, addition, and subtraction. Once each token has been put into the proper stack, the program can begin to evaluating the expression. It does this by using a helper function that takes in as a parameter two values and an operation. It turns the given expression which is in infix notation and turns it into post fix notation. It then moves through both stacks popping two values and one operator and solving while keeping precedence on which values and operators should be popped first. After it has gone through the result is the element at the top of the value stack.