Programming Assignment #3
Infix Expression Calculation

April 23, 2017

1 Objective

- to implement an infix expression calculator for expressions including +,-,/, and * operations.

2 Submission Instruction

You are expected to submit using the online submission system using the upload file(s) link.

The submitted code file should be named a3.zip including

- **a template stack implementaiton (stack.h)**
- **your driver a3.cpp**

if your file has a different name, it will not be considered in the evaluation.
The files should be directly included in the zip file not in a folder inside the zip file.

Submission Deadline is May 6 @ Midnight.

- Missing the deadline == No Marks for this assignment
- Submit even if your code is partially working
- Write the code yourself. Plagiarism (code copying) in any of the assignments ==> **-10 Marks**

3 Assignment Overview

- You need to implement the expression calculator algorithm for basic math operations.
- Expressions may include
  - Positive or negative integers.
  - Brackets.
  - Basic math operators.
  - New line char.

4 Typical Operaiton

4.1 Input and Output lines

- In all the following, a3.exe is assumed to be the name of your executable file
- Input line include
  - a3.exe 15+(4/2x3)
  - OUTPUT: 21.00
- Multiplication operator in input line is 'x' not '*' (* is considered a wild card in command line arguments).
- No spaces in the input expression.
- Output is a float number with two digits after decimal point (use setprecision() function).

4.2 ERROR Handling

- You should check for the correctness of every command. A wrong expression may include unbalanced brackets or division by zero.
  - Wrong expression "**Invalid Expression**"

4.3 Example Test Cases

- Input: a3.exe (3+4x5)/3
  Output: 7.66
- Input: a3.exe
  Output: 0.00
- Input: a2.exe 5x-3
  Output: -15.00
- Input: a2.exe 5x/3
  Output: Invalid Expression