COM267 Fall 2016
PA3:

Due Date: 04.11.2016, 23:59

The Assignment:

You will write a program that acts as a simple calculator, reading an expression that potentially contains paranthesis from std::cin. The program evaluates the input expression and prints the value of the expression to std::cout.

Assumptions:

- The input expression may have unbalanced paranthesis: You first need to validate if the paranthesis are balanced. When your program determines that the input string is unbalanced, it will print out.

  >invalid expression

  In this case, you will not evaluate the given string.

- All the operands will be given as decimal digits (0,1,..,9).
- There may be white-space characters in the expression.

Purposes:

- Ensure that you can use the STL stack class (#include <stack>)
- Ensure that you can implement the stack-based algorithms for evaluating arithmetic expressions.

1. PA3_Main.cpp: The implementation file for testing your utility functions. Actually, you don't have to write this file. Just start with our version.
2. MyLib.h: The header file that contains the prototypes of the utility functions used by PA4_Main.cpp. You don't have to write this file, neither. Just use our version.
3. MyLib.cpp: The implementation file that contains the implementation of the utility function that is specified in MyLib.h file. You will write this function and all other functions, if necessary; then submit this file.

Sample input expressions:

- (6+2)*3/2
- (4*((1+(9-2))/3))
- (2+5*4)+1) → invalid expression
- ((2+5*4)+(1 → invalid expression
- 3+4) → invalid expression

Submission Files:

Submit your MyLib.cpp file.

Your file should be renamed as: **MyLib_<YOUR_ID>.cpp**

Example: Assume that your id is 11290001. Then the file will be renamed as:
MyLib_11290001.cpp