
Homework05 – StackOfIntegers and Postfix

Due 11:55 PM Saturday, April 5, 2014, 6 points, group assignment

Purpose of Assignment

- The goal of this homework is to get familiar with the stack data structure and its usage such as in postfix expression procedure.

Assignment 1 (3 points)

- Complete the StackOfIntegers.cpp given including the following items;
 - resize the stack by repeated doubling when the stack is full
 - resize the stack by one half when the stack is a quarter full.
 - peek() // refer to the source code what to implement
 - freeStack() // refer to the source code what to implement
- Don't change function signatures and/or return types in StackOfIntegers.cpp and StackOfIntegers.h file which you may download from piazza. My test program may call the same function names and arguments with other (big) data set from my own driver program.
- StackOfIntegersHWDriver.cpp program is provided for your basic testing.

Assignment 2 (3 points)

- Complete EvaluatePostfixHW with the following points in mind;
 - You may refer to Program 3.13 to begin with, but it has very significant short comings. Make it work with StackOfIntegers. Don't change function signatures and/or return types in StackOfIntegers.cpp and ~.h file. My test program may call the same function names and arguments with other (big) data set from my driver program.
 - Don't use any global variables – I consider that is a significant malpractice as a computer scientist or engineers.
 - Make it work with blanks and multiple digits operands. You may assume that the operand and the operator are separated by at least a blank or more. For example, you assume that the postfix expression should be 2 3 4 * + instead of 234*+.
 - HINT: The given program works with a single digit and no blanks in postfix expression. You may expand the getToken() to handle multiple digits of operand properly as follows;


```
getToken(stack *s, string, &n); // char string[256];
```
- You test it thoroughly and your report should include what does **not** work before I or TA find them.
- EvaluatePostfixHWDriver.cpp program is provided for your basic testing.

Source files available from piazza.

StackOfIntegersHW.cpp, StackOfIntegersDriver.cpp, StackOfIntegers.h,
EvaluatePostfixHW.cpp, EvaluatePostfixHWDriver.cpp, Postfix.h

Checklist

- Turn in one source file called **hwo501_StudentID_Name.cpp**, and EvaluatePostfix function called **hwo502_studentID_NAME.cpp**. but don't turn in driver and include files.
- If I can't find your file because of your filename, I can't grade it, and your grade will suffer.
- Each source code must be documented properly that includes author(s), date, description, parameters/input/output and example(s). Include Group work section in your report to describe what you did and what your partner did for this assignment, how you contributed or get helped each other. This is the only section that could be different from your partner.
- Include the following line at the top of your every file with your name signed.
On my honor, I pledge that I have neither received nor provided improper assistance in the completion of this assignment. Signed: _____