Data Structure Project2

Infix to Prefix and Postfix

1. Description

In this program, you have to transform the infix expression to the prefix expression and the postfix expression, and then you have to calculate the result of the formula.

I. Using C/C++

II. Testing platform is codeblocks / dev-c++ / visual studio

III. DO NOT use STL. Implement the entire program by yourself.
(For example, if you want to use stack, please implement it by yourself.)

2. Input and Output

Input(File)
A formula with infix expression.

Execution Process
File_name.txt

Output(standard output)
The first line：Output the formula with prefix expression.
The second line： Output the formula with postfix expression.
The third line：Output the result of the formula.

3. Example

Input file:
(5*(2+((1*3)-2)))
Execution:
input.txt
Output:
Prefix：*5+2-*132 Postfix：5213*2-+* Result：15

4. Requirement

I. You need to turn in the code, test file downloaded from e3 and executable file.
II. Name your executable file "StudenyID_hw2." (Ex. 0116815_hw2)
III. Using standard output to print out your results and record them in your report.
IV. Your program must be readable (Ex. Comments, variable names, function names)
V. Please make sure the test file downloaded from e3 is executable.

Report (Name the file"StudentID_hw2.pdf", **Ex: 0116815_hw2.pdf**)

I. Descript your implementation. (Ex: algorithm, program executing process)
II. Results: test file form E3, execution result and execution time.Please explain the results.
III. Others
IV. No more than 2 pages.

5. Grading policy

I. Programing execution (60%)
II. Self-test(20%)
Run the testfile from e3 and record the result and execution time in your report.
III. Report (20%)
IV. Bonus (20%)

(note：The normal test file will be with one digit integer number. If you want to get the bonus grade, you have to try to handle the floating number and the number more than two digits, and judge whether the formula is valid or not.)

6. Submit

Compress all your files (including your code, test file downloaded from e3, executable file and report.) Name your compressed file "studentID_hw2.rar" or "studentID_hw2.zip". Upload your compressed file to e3.

Deadline: 2013.12.15, 23:59

No late upload

7. Attention

There is now a software on e3 which helps TAs to know the differences between your codes. So please DO NOT plagiarize, or we'll easy to find out, and you'll get zero point on this project.