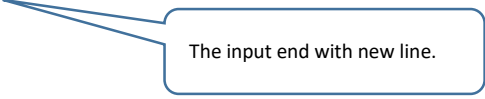


Data Structure Assignment 2 - Linked List

There are several infix expressions line by line in the file “input.txt”, but some of them may be invalid. Please read the file “input.txt” and check whether the expression is valid or not. If the expression is a valid infix expression, please transform the infix expression into postfix expression by using **linked list** data structure, then output the postfix expression and the result line by line. Otherwise, please output the sentence “The expression is invalid.”.

input.txt	output.txt
5*6/2	56*2/
5+3-1+	15
5+(6/2-3)*2-9/3	The expression is invalid.
((2/3)+9	562/3-2*+93/-
	2
	The expression is invalid.



Note:

1. All the operands are one digit.
2. You can use C or C++ as your programming language.
3. Your program must include some **comments**.
4. The maximum input size is 500 characters.
5. Please **round off** the results after the decimal point(最後的結果請四捨五入取到整數位).

Your program must satisfy the following requirements.

1. Please make sure your program can **read the file** “input.txt”, and **write the result to the file** “output.txt” automatically.
2. Your code should be able to do the operation with the following operators: “+”, “-”, “*”, “/”, “(”, “)”.

Pack up the files below, and name it as “**studentID_studentName.rar**”

1. the source code file (filename: studentID.c)
2. the report (filename: studentID.pdf)
3. the output file (filename: output.txt)

The report must include the programming language, programming environment, **the version of the compiler** and the description of the program. Besides, you can add anything you want to share, such as the problems you encountered.

Deadline: Nov. 21 12:00 p.m.

Warning: You are encouraged to discuss homework assignments with each other. However, you are individually responsible for the homework assignments. **Do not copy his/her assignment, or both of you will not get any point.**