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CSE 220: Data Structures Lab (Spring '14)

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BRAC University

Department of Computer Science and Engineering

CSE 220: Data Structures

Lab 04

Input

Your program will take an arithmetic expression as an input. For Example:

$1 + 2 * (3 / 4)$

$1 + 2 * [3 * 3 + \{4 - 5 (6 (7/8/9) + 10) - 11 + (12*8)\} + 14$

$1 + 2 * [3 * 3 + \{4 - 5 (6 (7/8/9) + 10)\} - 11 + (12*8) / \{13 + 13\}] + 14$

Program

Your program will determine whether the open brackets (the square brackets, curly braces and the parentheses) are closed in the correct order.

Output

Output 1

$1 + 2 * (3 / 4)$

This expression is correct.

Output 2

$1 + 2 * [3 * 3 + \{4 - 5 (6 (7/8/9) + 10) - 11 + (12*8)\} + 14$

This expression is NOT correct.

Error at character # 10. '{' - not closed.

Output 3

$1 + 2 * [3 * 3 + \{4 - 5 (6 (7/8/9) + 10)\} - 11 + (12*8) / \{13 + 13\}] + 14$

This expression is correct.

Output 4

$1 + 2] * [3 * 3 + \{4 - 5 (6 (7/8/9) + 10) - 11 + (12*8)\} + 14$

This expression is NOT correct.

Error at character # 4. '[' - not opened.

Task 1

Solve the above problem using an array based stack.

Task 2

Solve the above problem using a linked list based stack.

Available from: Friday, 4 October 2013, 02:00 PM

Due date: Friday, 11 October 2013, 01:55 PM

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