Assignment 3

CIS 2168 (Section 001)

Fall 2023

Instructor: Shuvra Chakraborty

Total points: 100

Objectives

Arithmetic expression evaluation using Stack.

Problem description

Consider the following infix expressions:

a) (3 * (((2 + 8) * (4 * 2)) + 7))

b) 9 * (5 + (2 + 1) * 8 + 3)

c) 9 + 2 * (5 – 2)

Write a program in java to evaluate the given arithmetic expressions. You should use the classic arithmetic expression evaluation algorithm included on the course website.

You may assume that:

- Input is a string (an infix arithmetic expression)
- Output is a numeric value
- Numbers in the given infix expression are always 1 digit
- Parenthesis are permitted

Submission Instruction

The assignment should be submitted through the available link on course Canvas shell. The assignment rubric is as follows:

1. Source code and demonstration [90 points]:

Provide the source code in zip file. Each file should have proper comments (e.g., explanations for methods, class and so on). It will be graded based on accuracy (e.g., program execution), clarity of the necessary comments, and short demonstration as instructed by TA or instructor.

2. Status.txt [10 points]:

In this text file, you need to report:

- The status of your program (completed or not; partial credit will be given even if the program is not completed).
- The design of your program (what and how the objectives have been accomplished.
- Support and advice (if any) you get from TA and/or your classmates.
- Comments and suggestions to improve this assignment.
- If you are doing late submission, you should mention the number of days you are late since the due date. According to our policy, for N days of late submission, you get a deduction of Nx3 points per day even if your submission completes all the requirements. That said, if you are late for 5 days, your maximum point can be up to 85 out of 100.

Please have the source codes and status files zipped into a single file DSAssign3-LastnameFirstname.zip and upload the file on Canvas.