

**CSC 228 Data Structures and Algorithms, Spring 2020**  
**Instructor: Dr. Natarajan Meghanathan**

**Assignment 5: Evaluation of an Expression in Prefix Format**

**Due by: Feb. 27th, 11.59 PM**

You are given the code (including the main function) for evaluating an expression that is input in the postfix format. You will modify the code in the main function so that it can evaluate an expression that is input in the prefix format and print the intermediate results as well as the final result of the evaluation.

You should also test your code with an expression string in prefix format that comprises of all the four operators (at least once) in a randomly chosen order with randomly chosen values in the range 10 to 50. For example, a sample expression string (prefix notation) could be input as **-, +, \*, /, 15, 12, 23, 44, 38** for the expression (infix notation)  $15 / 12 * 23 + 44 - 38$ .

**Submission**

- (1) The .cpp file featuring the entire code (including the modification to evaluate an expression in prefix format) of the Stack class, Node class and the main function.
- (2) Screenshot (.jpeg) of the execution of the code for a sample prefix expression, like the one given in the question description.