

3) (10 pts) ALG (Stack)

Convert the following infix expression to postfix using a stack. Show the contents of the stack at the indicated points (A, B, and C) in the infix expression.

$$4 + 3 * (2 - 6 / (9 - 7 * 1) + (2 + 3) * 1) - 8 / (1 + 1)$$

A

[illegible]

B

C

Note: A indicates the location in the expression **AFTER** the multiplication and before the open parenthesis. B indicates the location in the expression **AFTER** the addition and before the open parenthesis. C indicates the location in the expression **AFTER** the close parenthesis and before the subtraction.

Resulting postfix expression:

[illegible]

Note: There are exactly the correct number of boxes above. These should be filled with 13 numbers and 12 operators.

Computer Science Foundation Exam

August 26, 2023

Section B

ADVANCED DATA STRUCTURES

**NO books, notes, or calculators may be used,
and you must work entirely on your own.**

Name: _____

UCFID: _____

Question #	Max Pts	Category	Score
1	10	DSN	
2	10	DSN	
3	5	ALG	
TOTAL	25		

You must do all 3 problems in this section of the exam.

Problems will be graded based on the completeness of the solution steps and not graded based on the answer alone. Credit cannot be given unless all work is shown and is readable. Be complete, yet concise, and above all be neat. For each coding question, assume that all of the necessary includes (stdlib, stdio, math, string) for that particular question have been made.