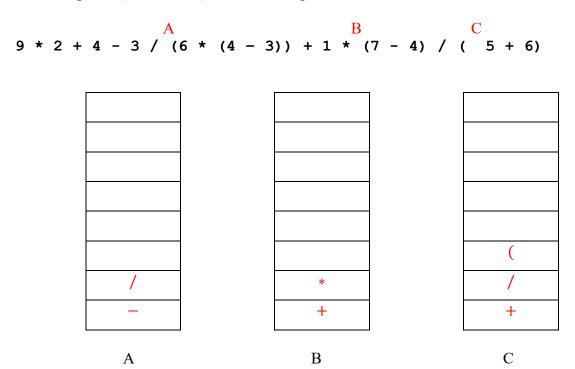
3) (10 pts) ALG (Stack)

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.



Note: A indicates the location in the expression **AFTER** the division operator and before the open parenthesis. B indicates the location in the expression **AFTER** the multiplication and before the open parenthesis. C indicates the location in the expression **AFTER** the open parenthesis and before the value 5.

Resulting postfix expression:



Note: There are exactly the correct number of boxes above. These should be filled with 12 numbers and 11 operators.

Grading: 1 pt for each stack, all or nothing, 7 pts total for the expression, take off 1 pt per error, cap at 0. (If you can fix the expression by moving 1 item to a different relative location, then that counts as one error.)

Computer Science Foundation Exam

May 17, 2025

Section B

ADVANCED DATA STRUCTURES

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

SOLUTION

Question #	Max Pts	Category	Score
1	10	ALG	
2	5	ALG	
3	10	DSN	
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 <u>not</u> 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 <u>be neat</u>. For each coding question, assume that all of the necessary includes (stdlib, stdio, math, string) for that particular question have been made.