

3) (5 pts) DSN (Stacks)

Convert the following infix expression to postfix using a stack. Show the contents of the stack at the indicated points (1, 2, and 3) in the infix expression.

$$A + (B - \overset{1}{\quad} C * (D + \overset{2}{\quad} E)) - \overset{3}{\quad} F * G$$

-
(
+

1

+
(
*
-
(
+

2

-

3

Resulting postfix expression:

A	B	C	D	E	+	*	-	+	F	G	*	-						
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Grading: 1 point for each stack, 2 points for the whole expression (partial credit allowed.)

Computer Science Foundation Exam

May 18, 2019

Section I B

DATA STRUCTURES

SOLUTION

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

Name: _____

UCFID: _____

NID: _____

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 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.