

3) (5 pts) ALG (Tries)

Suppose we insert the following strings into a trie:

cantaloupe
loop
lop
lobby
cantilever

(a) How many nodes would the resulting trie contain, including the root node?

(b) (b) What integer value would we store in the *count* variable in the **root node** of the resulting trie? Note that the count variable should be set to the number of valid words with end nodes stored within that sub-trie.

(c) If we subsequently deleted both “lobby” and “loop” from the trie, how many total nodes would be deallocated over the course of those two deletion operations?

Computer Science Foundation Exam

August 27, 2023

Section C

ALGORITHM ANALYSIS

**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	ANL	
2	10	ANL	
3	5	ANL	
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.h, stdio.h, math.h, string.h) for that particular question have been made.