

Interview Questions: Tries

Warning: The hard deadline has passed. You can attempt it, but **you will not get credit for it**. You are welcome to try it as a learning exercise.

☐ In accordance with the Coursera Honor Code, I (Atul Gupta) certify that the answers here are my own work.

Question 1

Prefix free codes. In data compression, a set of binary strings is *prefix free* if no string is a prefix of another. For example, {01,10,0010,1111} is prefix free, but {01,10,0010,10100} is not because 10 is a prefix of 10100. Design an efficient algorithm to determine if a set of binary strings is prefix-free. The running time of your algorithm should be proportional the number of bits in all of the binary strings.

Question 2

Boggle. Boggle is a word game played on an 4 -by-4 grid of tiles, where each tile contains one letter in the alphabet. The goal is to find all words in the dictionary that can be made by following a path of adjacent tiles (with no tile repeated), where two tiles are adjacent if they are horizontal, vertical, or diagonal neighbors.

Question 3

Suffix trees. Learn about and implement *suffix trees*, the ultimate string searching data structure.

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You cannot submit your work until you agree to the Honor Code. Thanks!