

Interview Questions: Tries (ungraded)

Practice Quiz • 30 min



Congratulations! You passed!

TO PASS 1% or higher

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GRADE

100%

Interview Questions: Tries (ungraded)

TOTAL POINTS 3

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 to the number of bits in all of the binary strings.

1 / 1 point

Design an efficient algorithm to determine if a set of binary strings is prefix-free: no binary string is prefix of other.



Correct

Hint: insert the binary strings into a 2-way trie.

Remark: it's also possible to solve this problem using radix sorting or a ternary search trie.

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.

1 / 1 point

Words of all adjacent tiles: horizontal, vertical, diagonal (and combined).



Correct

Hint: create a trie containing all of the words in the dictionary.

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

1 / 1 point

Implement the ultimate string searching data structure.



Correct

Warning: very difficult material ahead.