

Week 5: Programming Assignment and Content Quiz



10 questions

1. Which of the following is true of searching for an element in a Hash Table that is implemented using linear probing (you may assume a Hash Table that is ~70% full)?

- ☐ Worst case is $O(1)$
- ☐ Average case is $\log(n)$
- ☒ Average case is $O(1)$

2. When a hash table becomes too full, which of the following is required to resize the table?

- ☐ Create a new table which is larger than the original table. Then bulk copy keys from one table to the other (i.e. if a key is in location X in the original table, it remains in position X in the new table).
- ☒ Create a new table which is larger than the original table. Then individually reinsert each key from the old table into the new table (i.e. if a key is in location X in the original table, it may or may not be in position X in the new table).
- ☐ Add extra space at the end of the existing hash table and leave the old keys in place.

3. In the algorithm for spelling suggestions in this week's assignment, there was a hash set to mark Strings as visited. What is the BEST ANSWER for why we used the visited set?

- ☐ To avoid testing to see if a mutated String was a real word (and hence a spelling suggestion) more than once.
- ☒ To avoid exploring all the possible String mutations for an individual String more than once.
- ☐ So that our exploration was of a tree of words, and if we had a word repeated, it wouldn't be a tree anymore.

4. Which of these is an invalid word path (assume all words below are valid dictionary words)?

- ☐ From broom to mop: broom -> boom -> boo -> moo -> mop
- ☒ From shy to chime: shy -> she -> he -> hide -> chide -> chime
- ☐ From cake to stake: cake -> sake -> stake

5. How much time did you spend on the programming project this week (include time spent on the optional WordPath assignment if you did it)?

- ☐ <1 hour
- ☐ 1-2 hours
- ☒ 2-3 hours
- ☐ 3-4 hours
- ☐ 4+ hours

6. How difficult did you find the project this week?

- ☐ Very easy
- ☐ -

- ☐ Easy
- ☐ Somewhat easy
- ☒ Somewhat difficult
- ☐ Difficult
- ☐ Very difficult

7. Thinking of this COURSE OVERALL. Which assignment did you enjoy the most?

- ☐ Week 1: Flesch Score
- ☐ Week 2: Efficient Flesch Score
- ☐ Week 3: MyLinkedList
- ☐ Week 3: Markov Text Generation
- ☐ Week 4: Spell Checking and Autocomplete
- ☐ Week 5: Spelling Suggestions
- ☒ Week 5: Word Paths

8. Thinking of this COURSE OVERALL. Which assignment are you most proud of completing?

- ☐ Week 1: Flesch Score
- ☐ Week 2: Efficient Flesch Score
- ☐ Week 3: MyLinkedList
- ☐ Week 3: Markov Text Generation
- ☐ Week 4: Spell Check and Autocomplete
- ☐ Week 5: Spelling Suggestions
- ☒ Week 5: Word Path

9. What is the one thing you liked most about this course?

Very well structured and properly guided.

10. What is the one thing you would have liked to see changed about this course?

More Challenging questions. Like dynamic programming ones.

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