

Homework 08: Word Ladder I

Due Tuesday, Jan. 2nd, 2018

Instruction

Submit your answer to this question via PC² under your account by the posted due time. No late submissions will be accepted. Note that homework is opened-book, but no outside assistance is permitted.

Problem

Given two words (start and end), and a dictionary, find the shortest transformation sequence and the corresponding length from start to end, such that:

1. Only one letter can be changed at a time
2. Each intermediate word must exist in the dictionary

Given:

start = "hit"

end = "cog"

dict = ["hot", "dot", "dog", "lot", "log"]

return "hit" -> "hot" -> "dot" -> "dog" -> "cog", its length 5.

Note

1. Return 0 if there is no such transformation sequence.
2. All words have the same length.
3. All words contain only lowercase alphabetic characters.

Sample input

hit

cog

Sample output

hit -> hot -> dot -> dog -> cog

5