

## 127. Word Ladder

Hard

77811637Add to ListShare

A **transformation sequence** from word `beginWord` to word `endWord` using a dictionary `wordList` is a sequence of words `beginWord -> s1 -> s2 -> ... -> sk` such that:

- Every adjacent pair of words differs by a single letter.
- Every `si` for  $1 \leq i \leq k$  is in `wordList`. Note that `beginWord` does not need to be in `wordList`.
- `sk == endWord`

Given two words, `beginWord` and `endWord`, and a dictionary `wordList`, return *the number of words in the shortest transformation sequence from `beginWord` to `endWord`, or 0 if no such sequence exists.*

### Example 1:

**Input:** `beginWord = "hit"`, `endWord = "cog"`, `wordList = ["hot","dot","dog","lot","log","cog"]`

**Output:** 5

**Explanation:** One shortest transformation sequence is `"hit" -> "hot" -> "dot" -> "dog" -> "cog"`, which is 5 words long.

### Example 2:

**Input:** `beginWord = "hit"`, `endWord = "cog"`, `wordList = ["hot","dot","dog","lot","log"]`

**Output:** 0

**Explanation:** The `endWord "cog"` is not in `wordList`, therefore there is no valid transformation sequence.

From <<https://leetcode.com/problems/word-ladder/>>