Word Ladders Report

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April 14, 2015

Results

Our implementation produces the expected results on all input–output file pairs. On input pair `words-5757.dat and words-5757-test.in`, a shortest path from aargh to zombi is found to be of length 10. The path is

> aargh - graph - parch - chard - hoard - radon - nomad - dogma - amgio - gizmo - zombi.

Implementation details

We build the graph by first loading all possible words from the .dat file. After the words is loaded we sequentially fix a word w and iterate over all other words(v). For each pair (w, v) we check if a ladder from w to v is possible. The running time for graph construction with this approach is $O(n^2)$. The algorithm part has a time complexity of $O(nlogn)$. Since $O(n^2 + nlogn) = O(n^2)$ the total running time of your solution is $O(n^2)$.