Mustafa Irfan mi4467
Tung To tt23734
Spring 2017

EE422C Project 3 (Word Ladder) Test Plan

Test plan summary

Our goal in creating these test cases was to cover the edge cases that might occur. Our methodology consisted of two parts. The first was to record certain characteristics of instances that failed, and created test cases based on this. The second part was Test-Driven development, in which we created test cases prior to the writing of the lab, and let it guide us. We used Junit for all these test cases, and we had varying miscellaneous tests that verified the correctness of certain methods, most of the were designed for the lab as a whole singular module. Our test cases sufficiently cover edge cases and erroneous input, but might be lacking in proving our lab works for very sophisticated word ladders.

1.
   a) Print_BFS
   b) This test covers whether the BFS is compatible with the print function
   c) None
   d) Should print a word ladder between HELLO and CELLS.
   e) Fail if Ladder with duplicate words occurs, fail if we don't get a ladder, fail if incorrect ladder, pass if proper ladder.

2.
   a) End_Line_Words_BFS
   b) This test covers that the BFS still worked for ladders with rungs that are at the end of line in the dictionary.
   c) None
   d) Ladder between AIRNS and ALANE should exist and be valid.
   e) Fail if Ladder with duplicate words occurs, fail if we don't get a ladder, fail if incorrect ladder, pass if proper ladder.

3.
   a) Different_Word_Size_Dictionary_BFS
   b) This test covers that BFS will work with ladders with rungs of various sizes(different dictionaries of different fixed lengths)
   c) Upload dictionary to proper directory
   d) Ladder between CAT and DOG should exist and be valid
   e) Fail if Ladder with duplicate words occurs, fail if we don't get a ladder, fail if incorrect ladder, pass if proper ladder
4.
   a) Shortest_Path_BFS
   b) This test covers that BFS will work with ladders with rungs of various sizes
   c) None

Mustafa Irfan mi4467
Tung To tt23734
Spring 2017

d) Ladder between HELLO and CELLS of 1 rung.
e) Fail if Ladder with duplicate words occurs, fail if we don't get a ladder, fail if incorrect ladder, fail if not shortest length

5.

a) Word_In_Dictionary_BFS
b) This test covers whether that BFS understood the either of the word was not in dictionary
c) None
d) Should return a 2 element array list, essentially no word ladder exists
e) No ladder exists message should print.

1.

a) STANDARD_LADDER_DFS
b) Checks for correct printing of DFS ladder.
c) None
d) Ladder between SMART and MONEY
e) No stack overflow, ladder has no duplicates. Ladder correct.
f) Test runs in less than 5 seconds.

2.

a) NO_PATH_DFS
b) Output for no a path between two words
c) Change dictionary to short_dict.txt
d) Ladder between THREE and HEARD
e) Ladder has only two elements – THREE & HEARD. Correct.
f) Should run instantly

3.

a) WORD_NOT_IN_DICT_DFS
b) Output for when input words are not in the dictionary
c) None
d) Ladder between AAAAA and BRING
e) Same output as NO_PATH_DFS. Correct.
f) None

4.

a) SAME_WORD_DFS
b) Output when both start and end words are the same
c) None
d) Ladder between SMART and SMART
e) Output
f) None

5.

Mustafa Irfan mi4467
Tung To tt23734
Spring 2017

a) STANDARD_LADDER2_DFS
b) Checks for correct printing of DFS ladder.
c) None
d) Ladder between HELLO and FIGHT
e) No stack overflow, ladder has no duplicates. Ladder correct.
f) Test runs in less than 5 seconds.