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Test plan summary:

Our goals were to fully test our code to the max. Our methodology was breadth over depth and corner cases, meaning we tried to cover as much as possible without doing too many repeats. We used JUnit to test our BFS and DFS methods, and console for other cases. We tested the entire methods. We covered lots of different ladders, although it was rare to find two words that would not produce a ladder. We were able to smooth out kinks such as null pointer exceptions and some minor runtime errors through our test cases. We made heavy use of the methods in the provided test case.

Test 1.

- a) TestDFS1
- b) Covers if ladder is correct
- c) set up is same as provided test case
- d) expected output: true
- e) passes if ladder is as it should be, fails otherwise.
- f) test should run fairly quickly

Test 2.

- a) TestBFS1
- b) Covers if ladder is correct
- c) set up is same as provided test case
- d) expected output: true
- e) passes if ladder is as it should be, fails otherwise.
- f) test should run fairly quickly

Test 3.

- a) TestDFS2

- b) Checks to see if ladder string at the beginning is correct
- c) set up is same as provided test case
- d) expected output: a <N>-rung word ladder exists between <start> and <finish>.
- e) passes if string is as expected, fails otherwise
- f) test should run fairly quickly

Test 4.

- a) TestBFS2
- b) Checks to see if ladder string at the beginning is correct
- c) set up is same as provided test case
- d) expected output: a <N>-rung word ladder exists between <start> and <finish>.
- e) passes if string is as expected, fails otherwise
- f) test should run fairly quickly

Test 5.

- a) TestDFS3
- b) Covers if search handles no ladder found correctly
- c) set up is same as provided test case
- d) expected output: no word ladder can be found between <start> and <finish>.
- e) passes if string is as expected, fails otherwise
- f) test should run fairly quickly

Test 6.

- a) TestBFS3
- b) Covers if search handles no ladder found correctly
- c) set up is same as provided test case
- d) expected output: no word ladder can be found between <start> and <finish>.
- e) passes if string is as expected, fails otherwise
- f) test should run fairly quickly

Test 7.

- a) TestQuit1
- b) Covers if /quit works as expected with start word
- c) set up is same as provided test case
- d) expected output: program quits
- e) passes if program successfully quits
- f) test should run fairly quickly

Test 8.

- a) TestQuit2
- b) Covers if /quit works as expected with end word
- c) set up is same as provided test case
- d) expected output: program quits
- e) passes if program successfully quits
- f) test should run fairly quickly

Test 9.

- a) TestDFS4
- b) Checks to see if length of ladder is correct
- c) set up is same as provided test case
- d) expected output: true
- e) passes if ladder length is correct, fails otherwise
- f) test should run fairly quickly

Test 10.

- a) TestBFS4
- b) Checks to see if length of ladder is correct
- c) set up is same as provided test case

d) expected output: true

e) passes if ladder length is correct, fails otherwise

f) test should run fairly quickly