**EE422C Project 3 (Word Ladder) Test Plan**

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We used JUnit tests to test various possibilities and edge cases for input to our program. All tests test both BFS and DFS at the same time. We covered all possible edge cases we could think of. We did not cover basic word to word ladder creation because we felt we could do that by hand. Our goal was to ensure that our program would work under all conditions.

* 1. Same Word Test
  2. Checks if both words are the same.
  3. Had to create 2 String ArrayLists to get DFS and BFS output.
  4. DFS and BFS should both return a null pointer.
  5. It passes if both methods return null and fails if otherwise.
  6. Different Length Test
  7. Checks if the strings fed to BFS and DFS are different lengths.
  8. Had to create 2 String ArrayLists to get DFS and BFS output.
  9. DFS and BFS should both return a null pointer.
  10. It passes if both methods return null and fails if otherwise.
  11. Matching Letters Test
  12. Checks strings with 2, 3, or 4 matching letters that are fed to BFS and DFS methods.
  13. Had to create 2 String ArrayLists to get DFS and BFS output.
  14. Both methods should return valid word ladders except for the case of 4 matching letters, where it should return a null pointer
  15. Passes if both BFS and DFS result arrays have a size greater than 2 (valid ladder), or if they are null pointers (in the case of 4 matching letters)
  16. Not in Dictionary Test
  17. Checks if the strings fed to BFS and DFS are in the dictionary
  18. Had to create 2 String ArrayLists to get DFS and BFS output.
  19. DFS and BFS should both return a null pointer.
  20. It passes if both methods return null and fails if otherwise.
  21. Blank String Test
  22. Checks if strings fed to BFS and DFS are empty strings, or if they’re special characters like \n or \t.
  23. Had to create 2 String ArrayLists to get DFS and BFS output.
  24. DFS and BFS should both return a null pointer.
  25. It passes if both methods return null and fails if otherwise.