**Assignment 4 – Test Plan**

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| **Condition Description** | **User Input** | **Result** |
| Add from keyboard to dictionary | **1** | Proceeds to addAtKeyboard method and accepts user input and inputs it into the TreeMap accordingly. |
| ***Invalid*** input while adding words into TreeMap | **1** followed by only **spaces** | TreeMap will ignore all spaces and not accept it as input, and display an error message. Spaces will not be added to the TreeMap. |
| Add from file to dictionary | **2** | Prompts the user for a file name and inputs the file contents into the TreeMap. |
| Invalid file while trying to add from file | **2** followed by **invalid file name** | The program will give an error indicating the file cannot be found and return to the main menu. |
| Search for Word and Frequency | **3** | Prompts the user for the word to look for and displays the word as well as the frequency the word is used in the text in the TreeMap. |
| Search for an invalid word | **3** followed by an **invalid word** | The program will display a message indicating the invalid word is not in the TreeMap. |
| Display Number of Nodes in the TreeMap | **4** | Displays to screen the number of nodes currently in the TreeMap. |
| Display number of nodes in an empty TreeMap | **4** when the **TreeMap** is **empty** | The program will display an error indicating to the user that the TreeMap is empty. |
| Display all TreeMap words and frequency | **5** | This will print out the contents of the TreeMap onto the screen. If it is empty then it prints out an empty TreeMap. |
| Reset TreeMap to empty | **6** | Erases the data in the TreeMap and re-initializes it to empty. |
| Reset and already empty TreeMap | **6** on an **empty TreeMap** | The program will display an error indicating the TreeMap is empty and cannot be reset. |
| Quit Program | **7** | Quits the program and displays an exit message. |
| Invalid Selection | **Anything other than the number 1-7** | The program will display an error message and indicate for the user to choose a valid option. |