**Testing**

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| **Test** | **Expected outcome** | **Actual outcome** |
| Test that the exit functionality of the window works | Window should close once the exit top right has been clicked | Outcome was as expected, window closed. |
| Test that both the browse files buttons work | Clicking either of the browse files buttons should open up the PC library and allow the user to enter a file | Outcome was as expected and the user was given the library to browse for a file by click both buttons. |
| Test ranked frequency decryption using standard cipher file and frequency file | “output.txt” file to be made with text of the same structure as cipher file with substituted letters where applicable | As expected, although text is not in fully English plaintext, much of the words have now become clearer, i.e. Sherlock Homes. Therefore, this method on its own was not successful in fully decrypting the whole file |
| Test nearest frequency decryption using standard cipher file and frequency file | “output.txt” file to be overwritten as new file with substituted letters where applicable | Most recent test did not compile however from tests while in the process of creating the program I found that although this method was slightly better than the other for this example file, I found that many letters were substituted to the same plaintext as they had nearest frequency to the same letter, this is an issue with this method. |
| Test either decryption method by only entering one or zero files. | A “file not found” error message should pop up prompting the user to add two files | The result when tested was as expected. |
| Test by entering a non-text file to decrypt. | A “IO Exception” error message should pop up prompting the user to add valid files | Error message did not pop up but instead the program crashed, this is an issue with my code that I will investigate. |
| Test ranked frequency using own frequency of letters list | Same process should take place using my own list of frequencies and so should show more decrypted text in cipher.txt | Test was as expected, a more decrypted message was outputted as it was decrypted using false letter frequencies. |
| Test the decryption using own cipher file | Using a smaller simple message, this should be easier to decipher using ranked frequency decryption. | Outcome as expected, deciphered message was written to “output.txt”. |
| Test the decryption using an empty cipher file | No decryption should take place and program should write nothing to the output file | Outcome as expected. |