I have used the observer pattern for this lab and there is no issues. I did error checking as well.

First user will have 2 menus:

Please choose the following menu:

1. List Files

2. Quit

If user choose 1 then it will ask for a path, and list all the files ending with .txt in the folder. If the directory is random then it will ask for another valid directory. If the number is not entered, then it will ask user to enter integer. If integer is greater than 2 then it will show the first menu again.

Then 4 menus will be presented to user:

Please choose the following menu:

1. Delete File

2. Create File

3. Modify File by duplicating its contents and appending them to the end

4. Return to Previous Menu

If user choose 1 then it will list all the files ending with .txt in the folder and ask user to choose the file that want to be deleted. If the number is not entered, then it will ask user to enter integer.

If the user chooses 2, then it will ask for file name and save an empty file.

If the number 3 is selected, then it will copy the content of file and duplicate it and save the file again. File will be saved as the previous file but with the duplicated content in it.

If user choose number 4 then it will present, the first menu again where user have to choose list files or quit.

At the end it will provide the number of times each function/method being called.

Lists: 3

Deletes: 1

Creates: 5

Modifications: 1