Project Documentation & Details

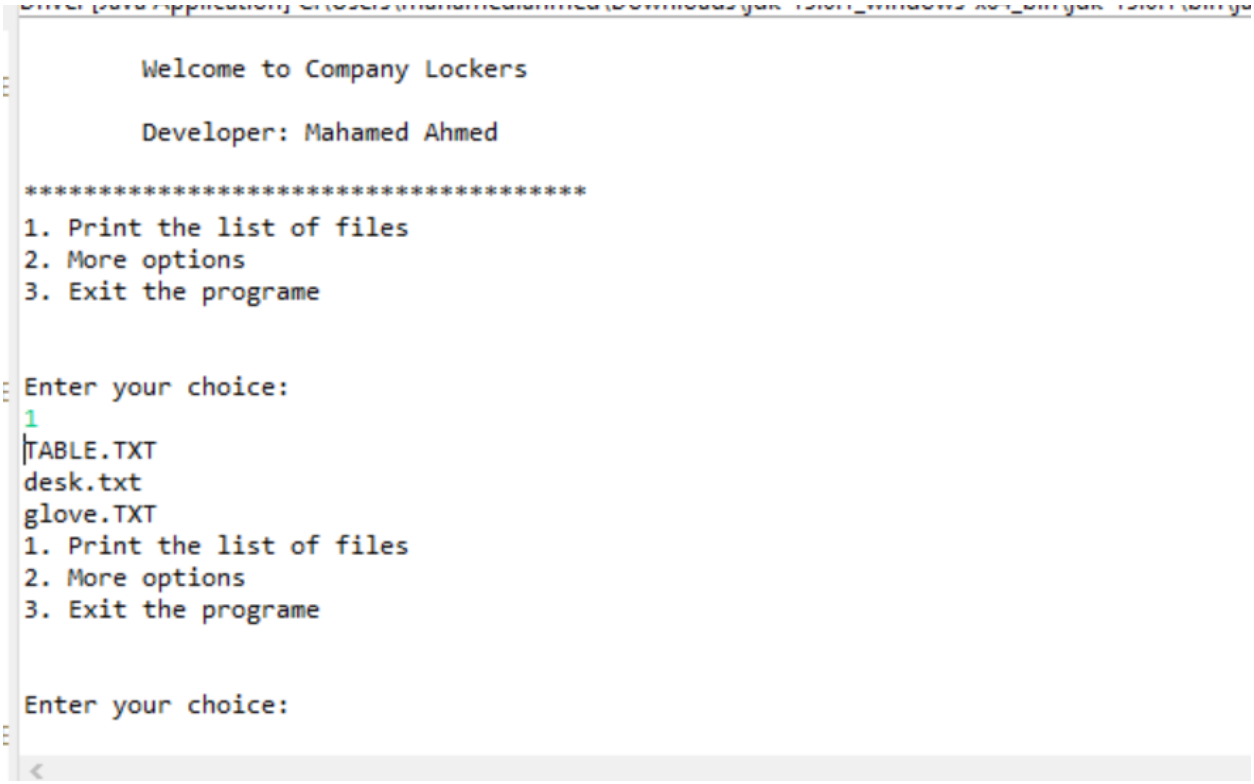
Client: Company Lockers

Date: 12/14/2020

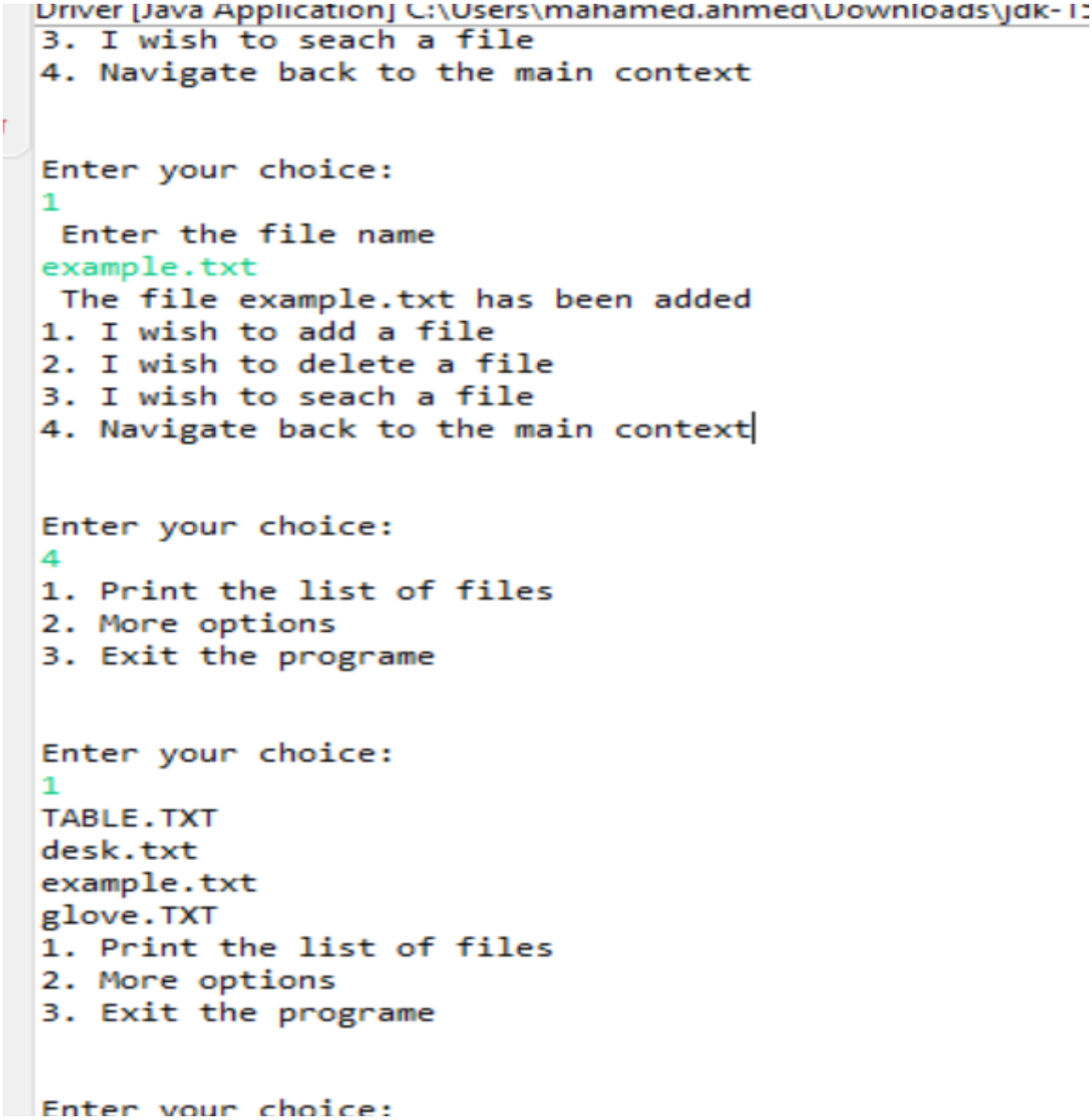
Project Specification:

This is a File Management project where a user has various options. These options include seeing the files in the current directory, adding, deleting, and searching for a file in the directory. The program does not accept duplicate files, it will tell the use that they cannot add a file with the same name as a one that is already in the directory. Similarly, a user is not able to delete a file that doesn’t exist in the directory. The program also ignores the case sensitivity of the file names. Lastly, the user has the option to exit the program.

Program in Action:



In the picture above, the program gives the user 3 options to begin with. Option 1 is selected which shows the list of files.



In this picture, the user selects the add file option. The user types “example.txt” to add to the list. The program then shows the files is in the list.

```
Enter your choice:
2
Enter the file to delete
desk.txt
 File has been deleted
1. I wish to add a file
2. I wish to delete a file
3. I wish to seach a file
4. Navigate back to the main context

Enter your choice:
4
1. Print the list of files
2. More options
3. Exit the programe

Enter your choice:
1
TABLE.TXT
example.txt
glove.TXT
1. Print the list of files
2. More options
3. Exit the programe

Enter your choice:
```

In this picture, the user wants to delete a file called “desk.txt”. The file is deleted and is no longer in the list.

```
Enter your choice:
3
Enter the file to found
EXAMPLE.txt
the file EXAMPLE.txt was found
1. I wish to add a file
2. I wish to delete a file
3. I wish to seach a file
4. Navigate back to the main context

Enter your choice:
4
1. Print the list of files
2. More options
3. Exit the programe

Enter your choice:
1
TABLE.TXT
example.txt
glove.TXT
1. Print the list of files
2. More options
3. Exit the programe

Enter your choice:
```

In this picture, the user wants to search a file called “EXAMPLE.TXT” and then the program shows the file is found.

Sprint Planning:

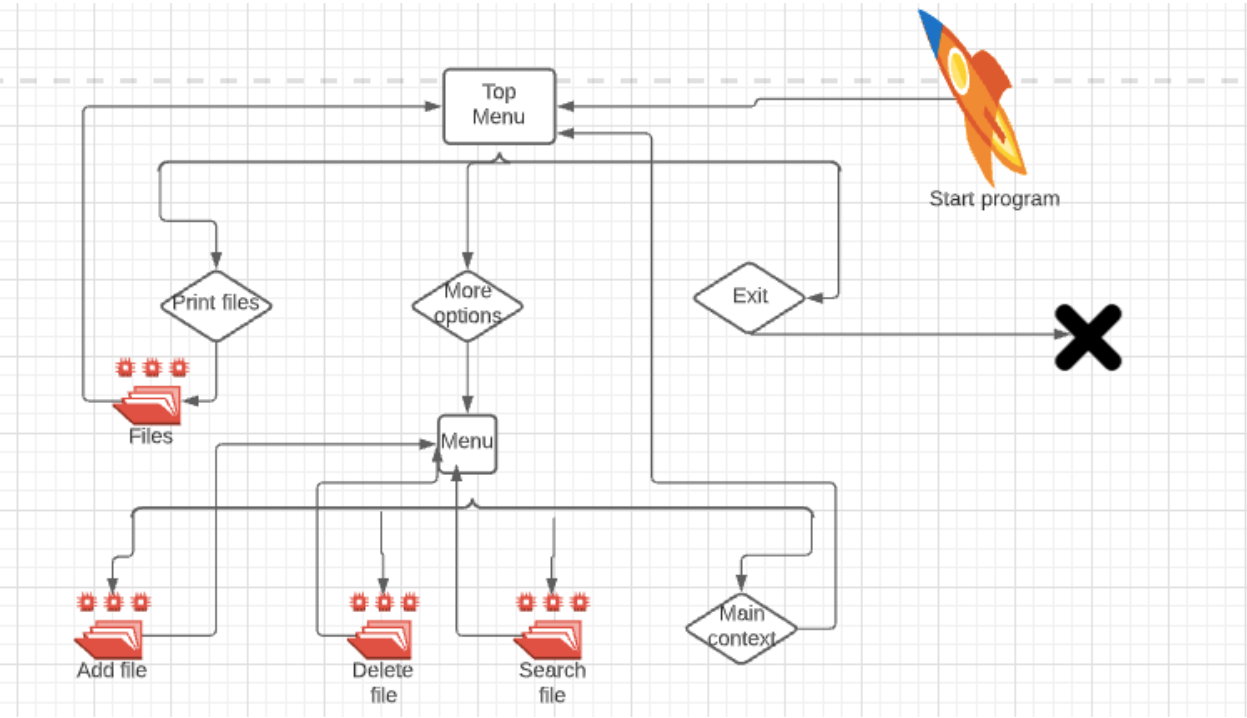
Sprint1: The menu navigation is setup. Validated if the user can enter an input and registered it.

Sprint 2: Implemented the add file and the delete file methods. Both methods catch any errors if a user tries to add an existing file or delete non existing file.

Sprint 3: Implemented the search method, which checks to see if a given file name exist in the directory. And also the retrieve file method which prints the list of files in the directory.

Sprint 4: Combined all the functionalities and the flow of the program. Tested the program with different test cases and fixed any bug that occurred.

Flowchart:



In the flowchart above, it shows all the different component of how the program works. First, the program starts and shows the different options in the top menu that a user can select which are: print files, more options, and exit the program. If the user chooses to print files, the list of list will be shown and the program goes back to the top menu. If a user chooses more options, another menu appears and in that menu, the user can add a file, delete a file , search a file, or go back to the top menu. Depending on which option the user chooses, that option will get executed and the user will be brought back to the same selections unless they choose to go back to the top menu. In the top menu, the user can exit.

Java Concepts and Data Structures & Algorithms:

Interface – Created this interface to hold the method signatures for the program

Encapsulation – The base functions are hidden from the user, they aren't able to access them

Sort – This method is used to sort the list of files in ascending order

ArrayList – Used to keep track of the files

Stream – This interface is used to chain multiple methods to produce concise code

GitHub link: **https://github.com/mahamed81/HCL-CompanyLockers-Project**

Conclusion:

The program developed for Company Lockers performs the core operations of retrieving, adding, deleting, and searching files. The program achieves the requirements and specifications provided by the client.

As for future iterations and enhancement, the interface and the data storage could be improved. There could be web based interface where it's convenient for the user to click and choose different options as supposed to tying them.

The unique thing about this program is that it never crashes; all the exceptions have been handled. It keeps running until the user decides to exit the program.