Project Phase – I

Virtual Key for Your Repositories

Project details:

This is a console based java application that can list (in ascending order) create, delete and search for files. It does not crash and provides options to exit.

Developer detail's:

Project phase 1

Course: Java Full Stack Developer

This Project is Developed by ***Sharanbasava*** **.**

Link to the GitHub Repository:

https://github.com/Sharanbasava98/Virtual-Key-for-Your-Repositories Phase1-Project-SIMPLILEARN.git

Sprint 1:

1. Decide Flow of the program
2. Design Classes and Methods
3. Design Exceptions
4. Create Project Structure
5. Code Data tier
6. Code Business tier interface

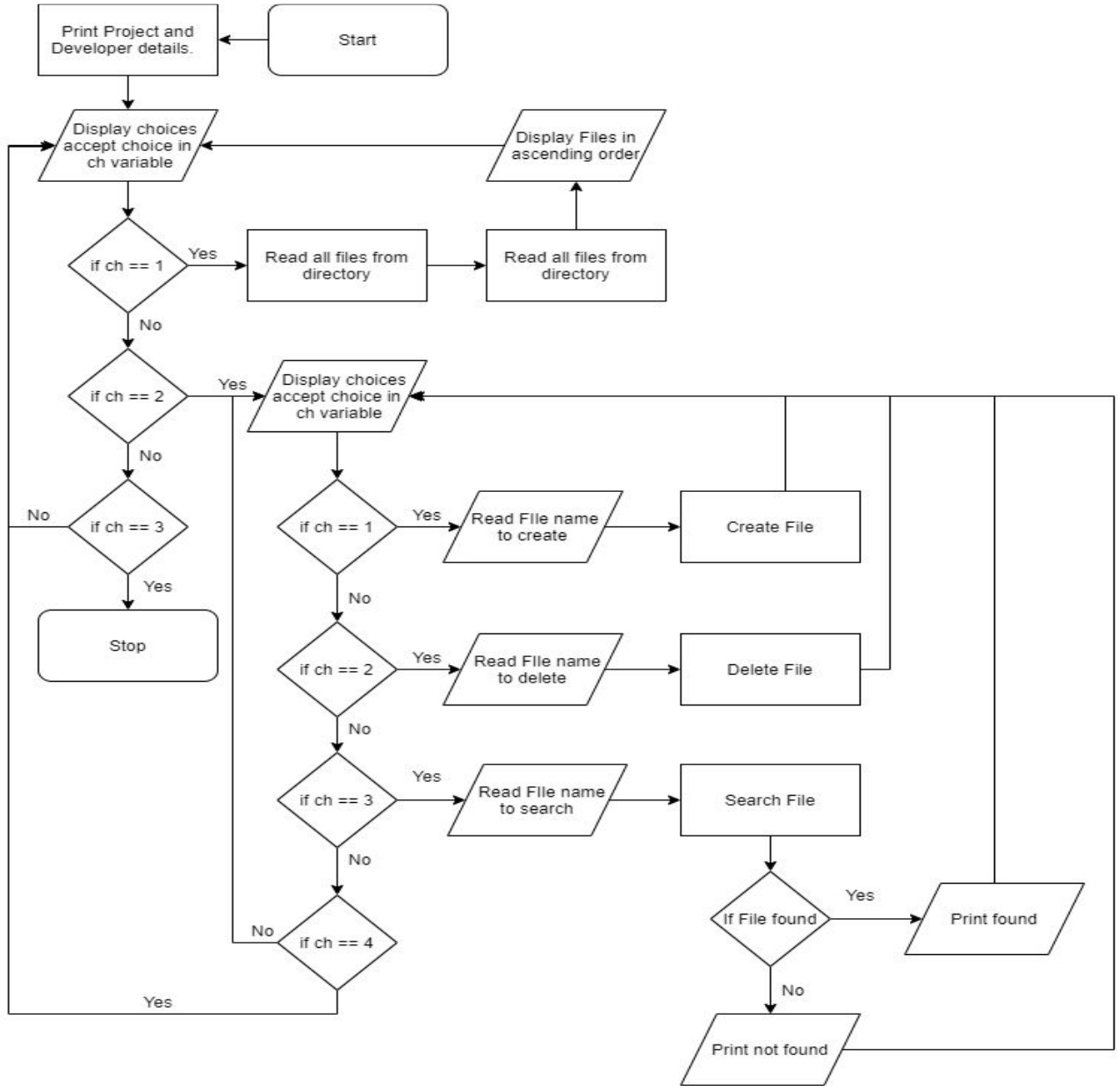
Sprint 2:

1. Code Business Tier Methods
a. List File Method
b. Create File Method
c. Search File Method
d. Delete File Method
2. Code the level one menu
3. Code the level two menu
4. Call the Business Tier Methods in the Main File
5. Use String Formatting to display the output in a standard manner

Algorithm:

1) Start
2) Print Options to list, manage files and exit
3) If choice is 1
a) Read all files in the directory
b) Sort files in ascending order using Collections.sort()
c) Print all the files
d) Goto 3
4) If the choice is 2
a) Print Options to add, search and delete files
b) If the choice is 1
i) Accept file name from the user
ii) Create a new file with that name
iii) Goto b
c) If the choice is 2
i) Accept file name from the user
ii) Delete the file with that name
iii) Goto b
d) If the choice is 3
i) Accept file name from the user
ii) Search for file with that name
iii) If file found print found
iv) Else print Not found
v) Goto b
e) If the choice is 4 goto a
f) Goto 2
5) If the choice is 3 goto 7
6) Goto 2
7) Stop

Flowchart of the System:



Core Concepts Implemented:

1. Encapsulation: FileDetail class in the data layer encapsulates all the file data such as file
name, file parent, file length, file path by making them private and providing public
methods to access them
2. Abstraction: The class FileManagerBOImpl abstracts all the implementation details from
the presentation layer class (VitualKeyMain) and the interface (FileManagerBO)
3. Inheritance: The AlphaNumericOnly and the FileNameNotFoundException.java class
extend/ inherit from the RuntimeException class to provide user-defined exception
messages if the file name provided by the user is not a valid name and if the file name
provided to delete by the user is not available.
4. Polymorphism: The FileDetail class overrides the toString method to provide custom
string output. It also overrides the compareTo method of the comparator method to
provide the sorting capability. It also has overloaded constructors.
5. java.util.FIle was used to create delete, search and list files from the directory
6. Linked List was used to store the list of files in the directory and Collections.sort was
used to sort them.

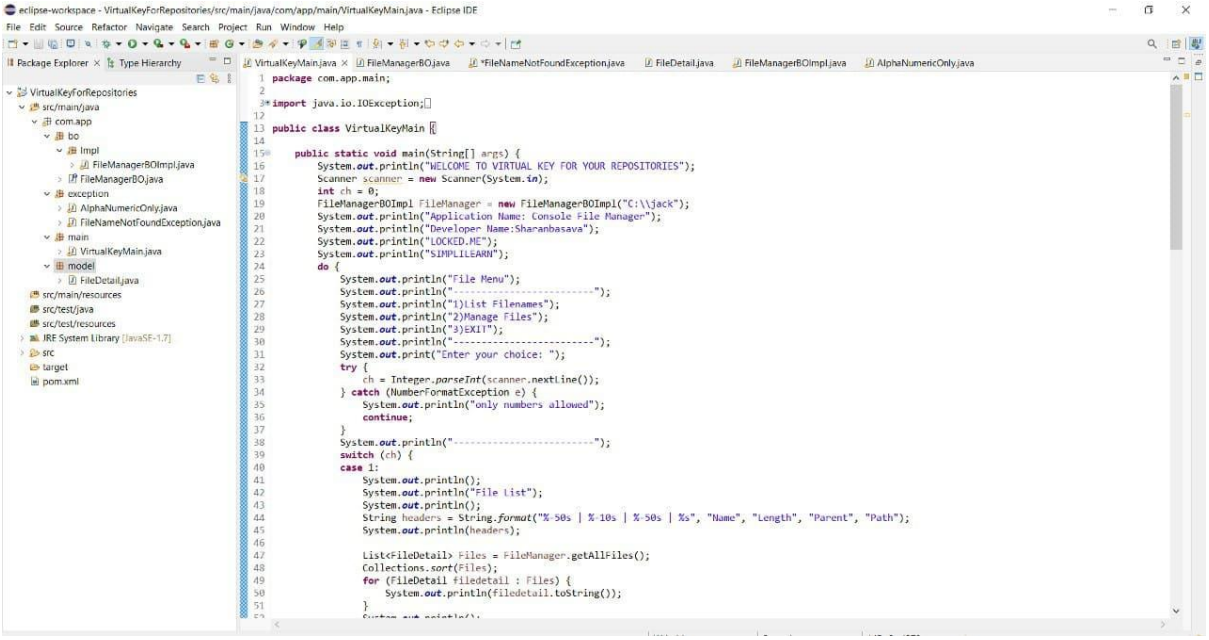
PROJECT GIT REPOSITORY:

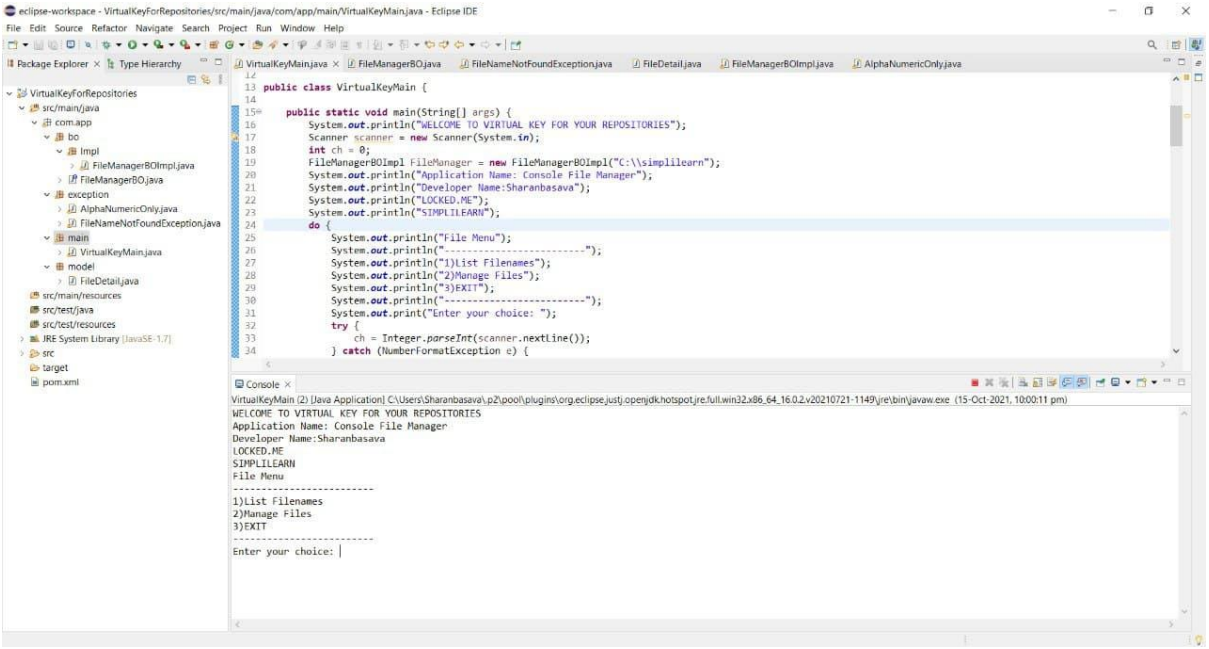
Link to the GitHub Repository:

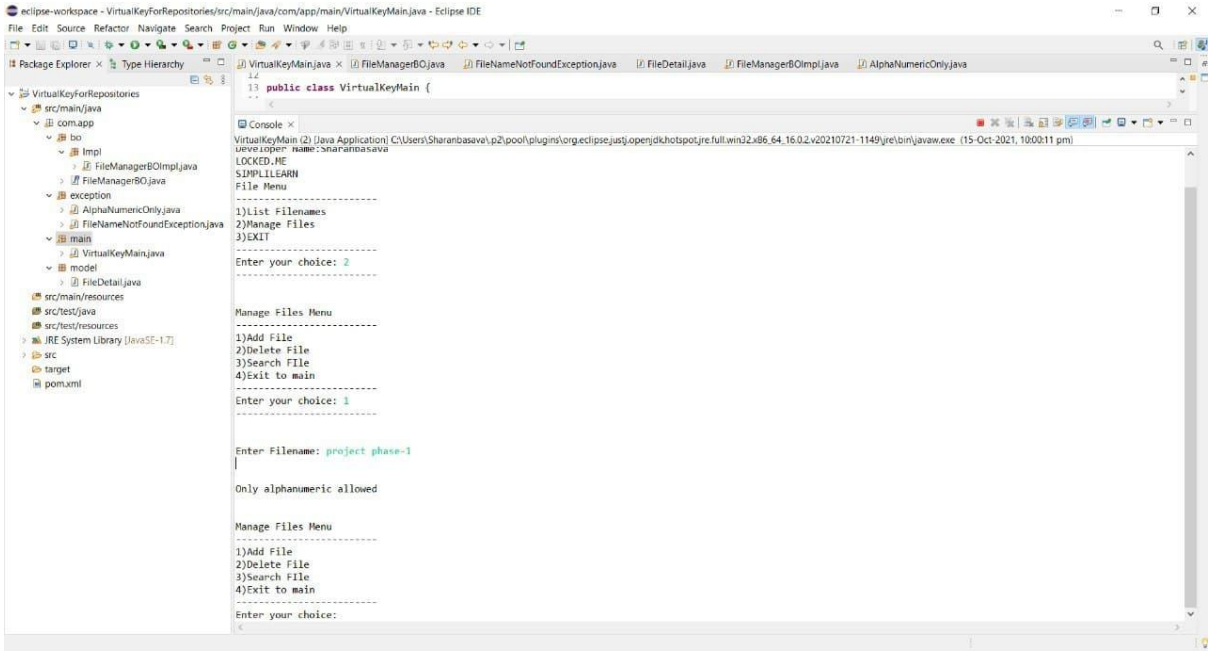
https://github.com/Sharanbasava98/Virtual-Key-for-Your-Repositories__Phase1-Project-SIMPLILEARN.git

✧ ***SCREENSHOTS OF PROGRAM OUTPUT:***

WELCOME SCREEN:






eclipse-workspace - VirtualKeyForRepositories/src/main/java/com/app/main/VirtualKeyMain.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Type Hierarchy
VirtualKeyForRepositories
src/main/java
com.app
bo
Impl
FileManagerBOImpl.java
FileManagerBO.java
exception
AlphaNumericOnly.java
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main
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src/test/java
src/test/resources
JRE System Library [JavaSE-1.7]
src
target
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VirtualKeyMain.java
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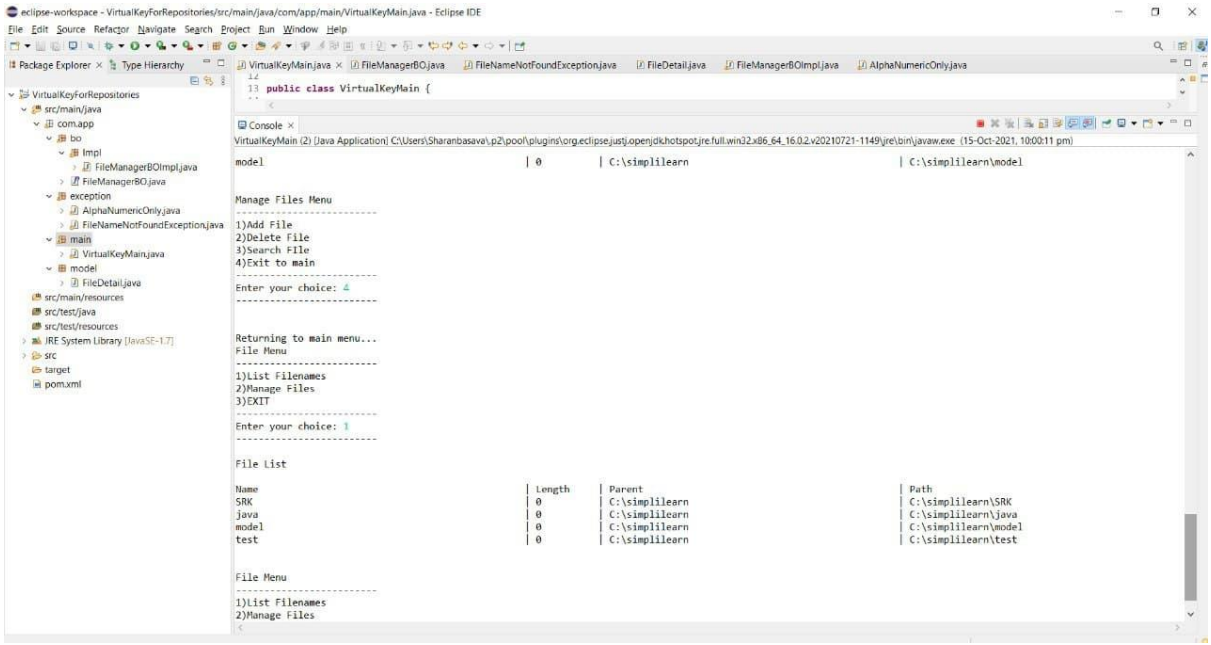
public class VirtualKeyMain {
Console
VirtualKeyMain (2) [Java Application] C:\Users\Sharanbasave\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149\jre\bin\javaw.exe (15-Oct-2021, 10:00:11 pm)
Developer Name:Sharanbasava
LOCKED.ME
SIMPLILEARN
File Menu
1)List Filenames
2)Manage Files
3)EXIT
Enter your choice: 2
Manage Files Menu
1)Add File
2)Delete File
3)Search FIle
4)Exit to main
Enter your choice: 1
Enter Filename: project phase-1
Only alphanumeric allowed
Manage Files Menu
1)Add File
2)Delete File
3)Search FIle
4)Exit to main
Enter your choice: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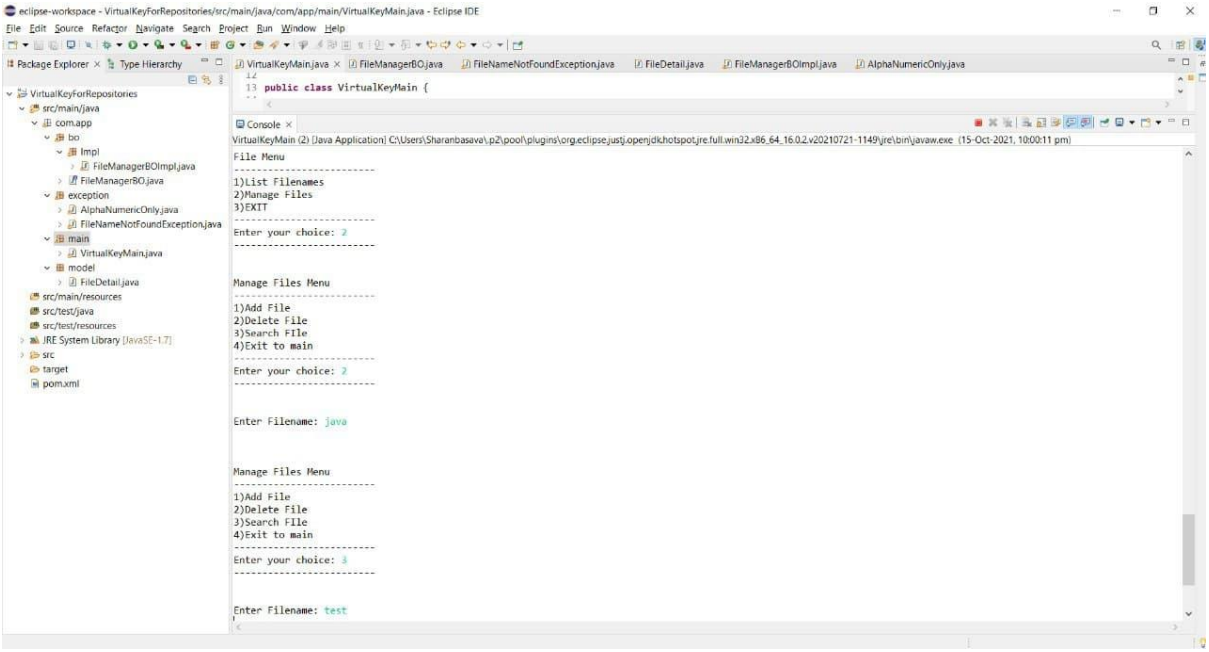
model | 0 | C:\simplilearn | C:\simplilearn\model
Manage Files Menu
1)Add File
2)Delete File
3)Search FIle
4)Exit to main
Enter your choice: 4
Returning to main menu...
File Menu
1)List Filenames
2)Manage Files
3)EXIT
Enter your choice: 1
File List
Name | Length | Parent | Path
SRK | 0 | C:\simplilearn | C:\simplilearn\SRK
java | 0 | C:\simplilearn | C:\simplilearn\java
model | 0 | C:\simplilearn | C:\simplilearn\model
test | 0 | C:\simplilearn | C:\simplilearn\test
File Menu
1)List Filenames
2)Manage Files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3)EXIT
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Manage Files Menu
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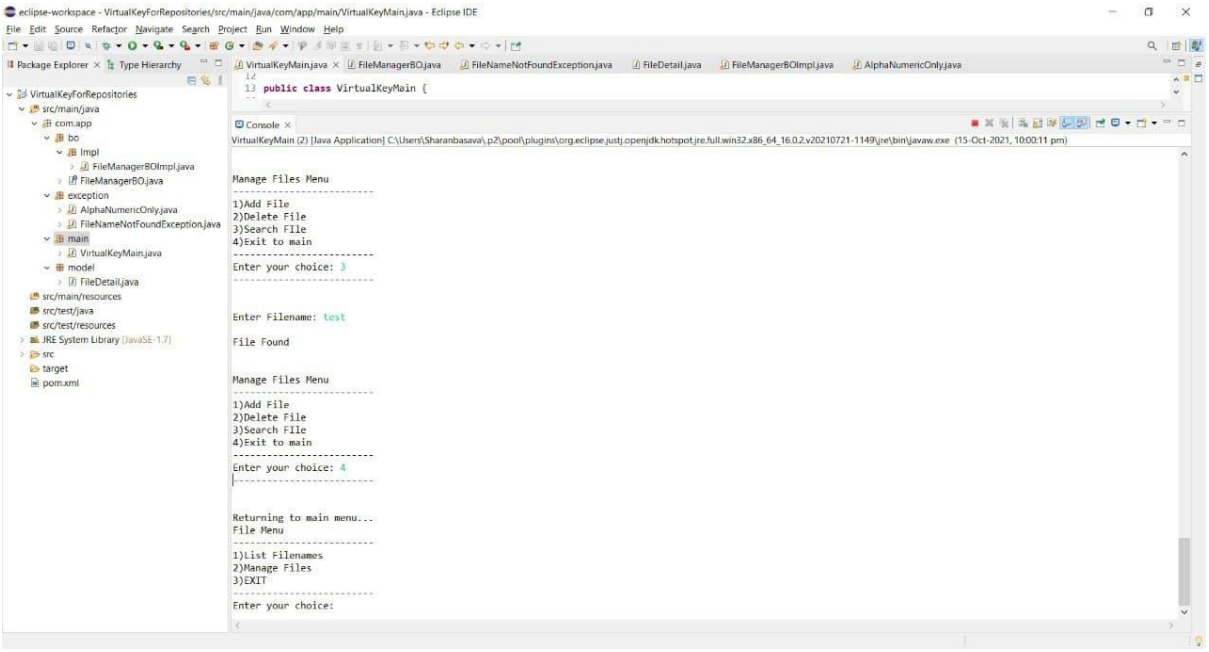
2)Delete File
3)Search File
4)Exit to main
Enter your choice: 2
Enter Filename: java
Manage Files Menu
1)Add File
2)Delete File
3)Search File
4)Exit to main
Enter your choice: 3
Enter Filename: test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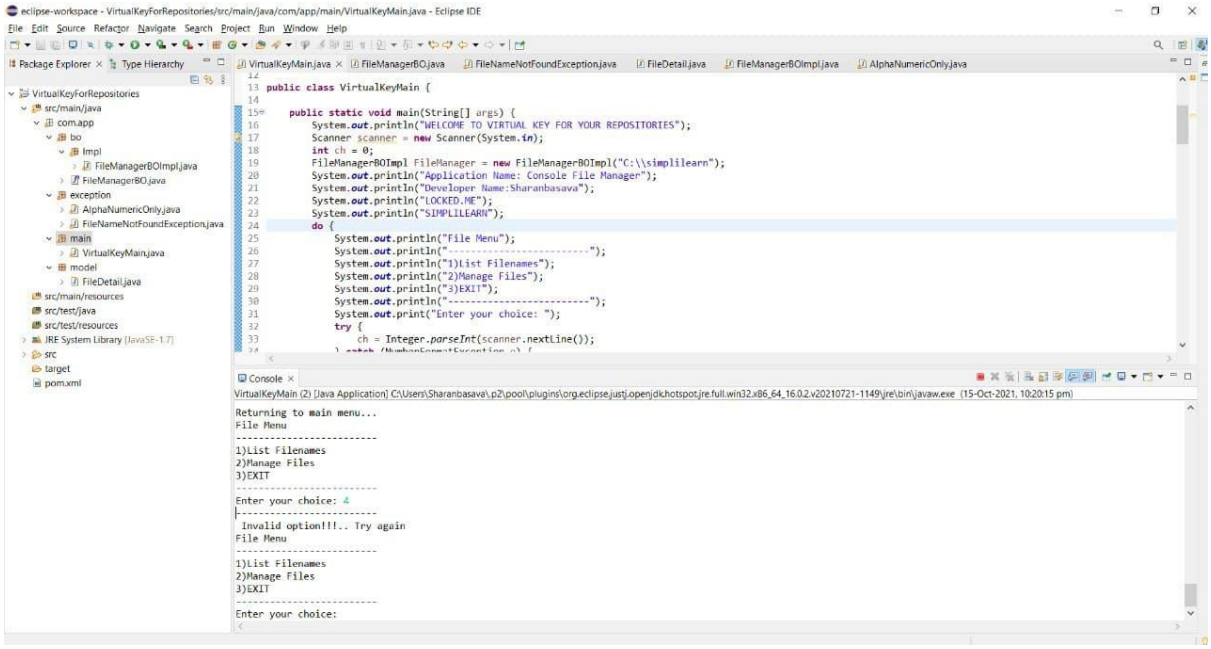
Manage Files Menu
1)Add File
2)Delete File
3)Search File
4)Exit to main
Enter your choice: 3
Enter Filename: test
File Found
Manage Files Menu
1)Add File
2)Delete File
3)Search File
4)Exit to main
Enter your choice: 4
Returning to main menu...
File Menu
1)List Filenames
2)Manage Files
3)EXIT
Enter your choice: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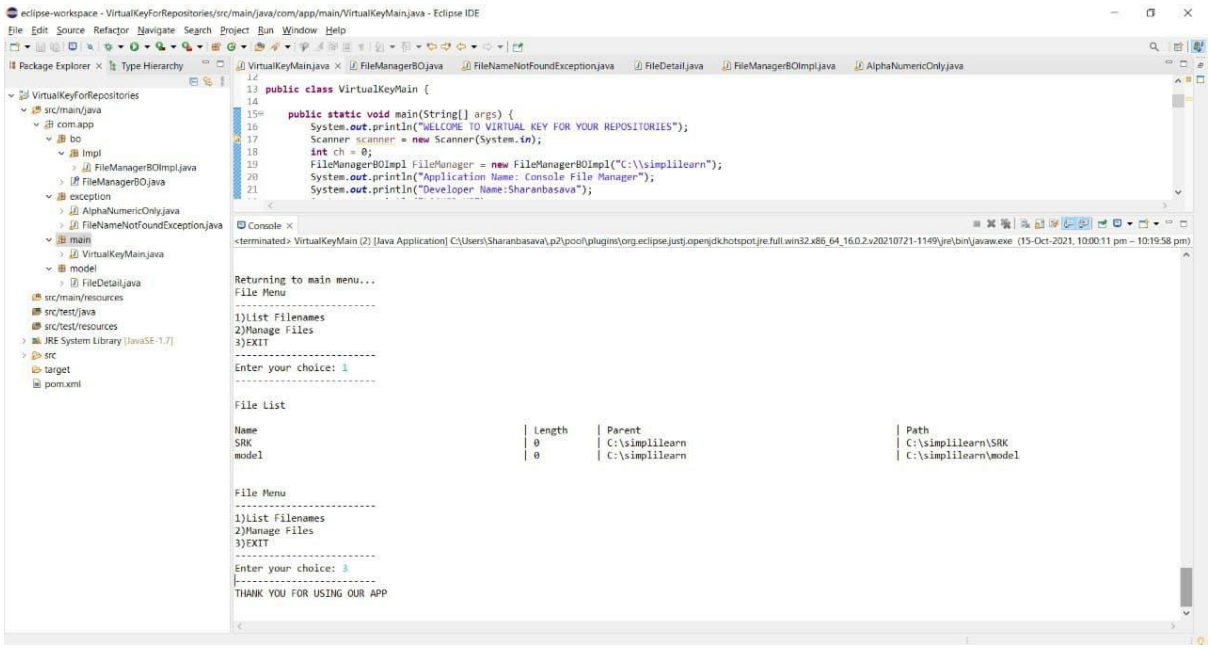
public class VirtualKeyMain {
public static void main(String[] args) {
System.out.println("WELCOME TO VIRTUAL KEY FOR YOUR REPOSITORIES");
Scanner scanner = new Scanner(System.in);
int ch = 0;
FileManagerBOImpl FileManager = new FileManagerBOImpl("C:\\simplilearn");
System.out.println("Application Name: Console File Manager");
System.out.println("Developer Name:Sharanbasava");
System.out.println("LOCKED.ME");
System.out.println("SIMPLILEARN");
do {
System.out.println("File Menu");
System.out.println("-------------------------");
System.out.println("1)List Filenames");
System.out.println("2)Manage Files");
System.out.println("3)EXIT");
System.out.println("-------------------------");
System.out.print("Enter your choice: ");
try {
ch = Integer.parseInt(scanner.nextLine());
Console
VirtualKeyMain (2) [Java Application] C:\Users\Sharanbasava\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149\jre\bin\javaw.exe (15-Oct-2021, 10:20:15 pm)
Returning to main menu...
File Menu
----
1)List Filenames
2)Manage Files
3)EXIT

Enter your choice: 4

Invalid option!!!.. Try again
File Menu
----
1)List Filenames
2)Manage Files
3)EXIT

Enter your choice: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System.out.println("Developer Name:Sharanbasava");
Console
<terminated> VirtualKeyMain (2) [Java Application] C:\Users\Sharanbasava\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149\jre\bin\javaw.exe (15-Oct-2021, 10:00:11 pm – 10:19:58 pm)
Returning to main menu...
File Menu
----
1)List Filenames
2)Manage Files
3)EXIT

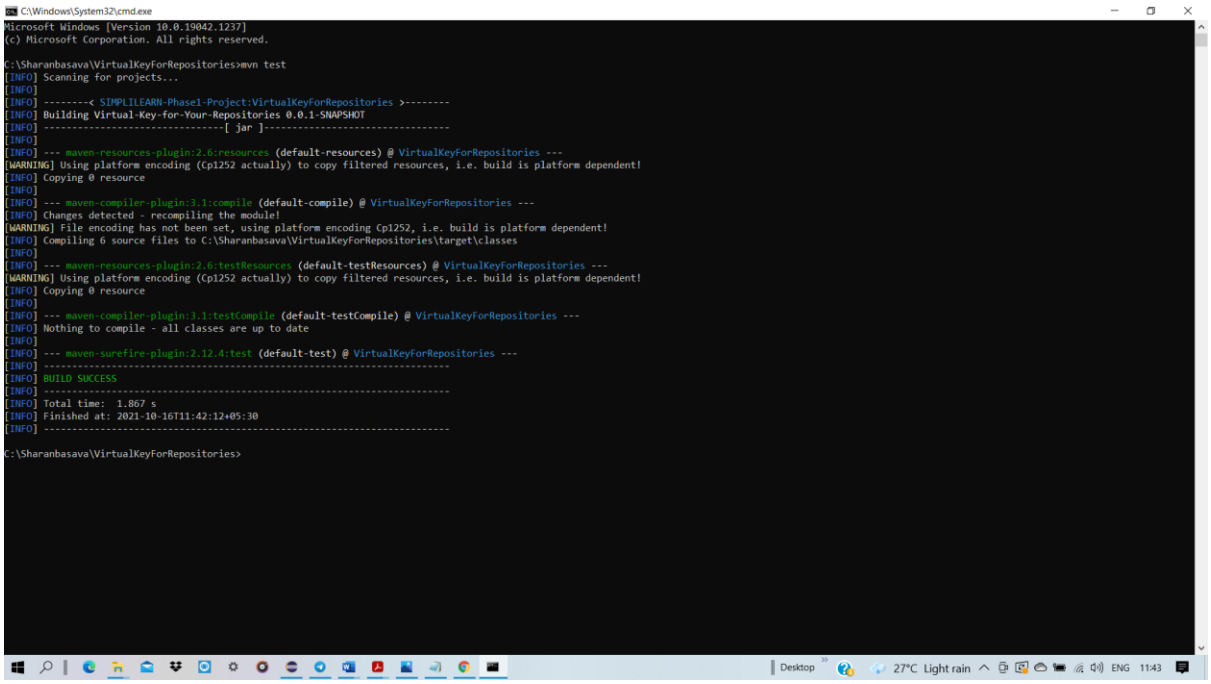
Enter your choice: 1

File List
Name | Length | Parent | Path
SRK | 0 | C:\simplilearn | C:\simplilearn\SRK
model | 0 | C:\simplilearn | C:\simplilearn\model
File Menu
----
1)List Filenames
2)Manage Files
3)EXIT

Enter your choice: 3

THANK YOU FOR USING OUR APP

The output taken from maven :



Conclusion:

The file manager was created using the three-tier architecture. Special attention was paid to implement the pillars of the OOPM. Best practices were followed as and when possible. Rigorous testing was done to ensure that there are no spontaneous exits and all exceptions are handled. Some Exceptions are handled using Custom exception classes. The throws and throw keywords were used to handle exceptions. The Comparable interface was used to provide the compare To method to help in sorting