# 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:

This Project is Developed by Sachin Bali . This project is hosted on git repository: https://github.com/Sachin-3333/Virtual-Key-For-Your-Repositories.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

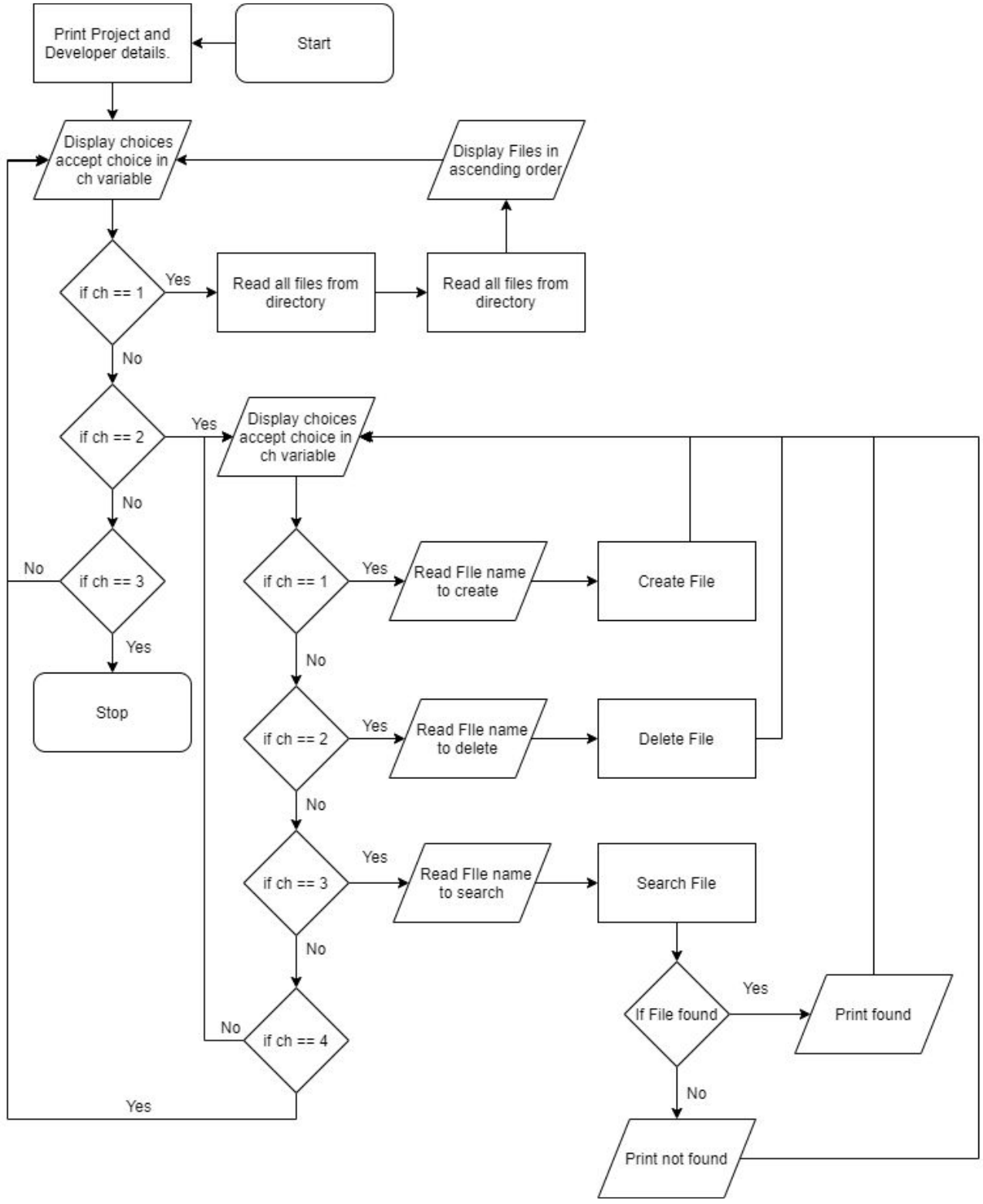
### Sprint 2:

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.

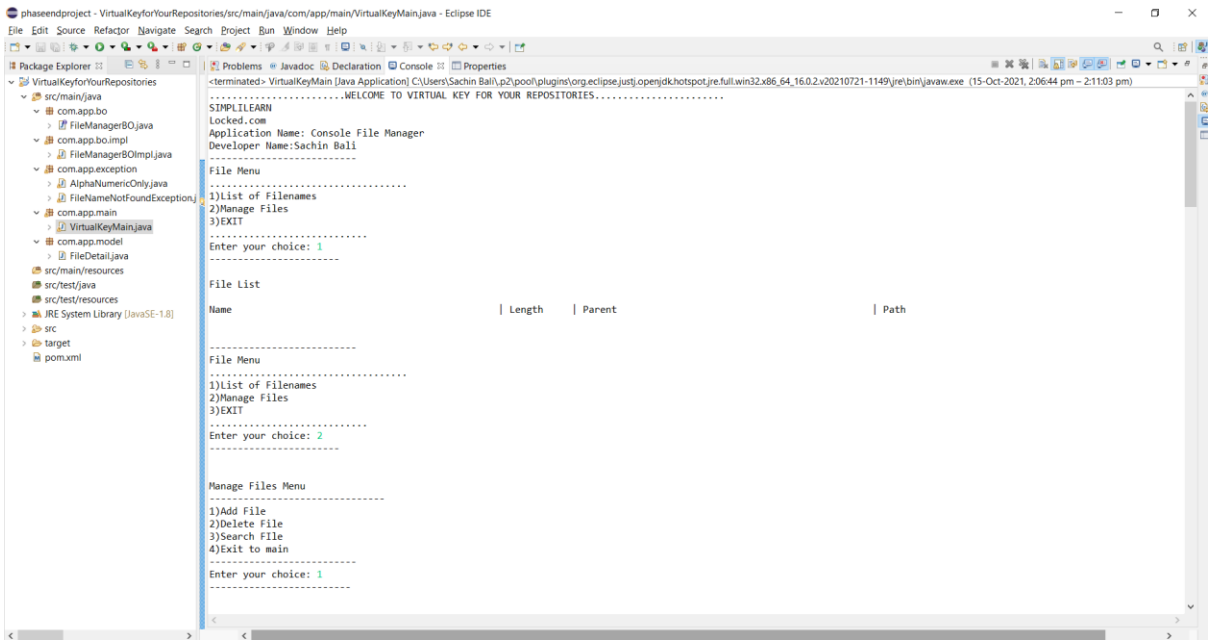
## PROJECT GIT REPOSITORY:

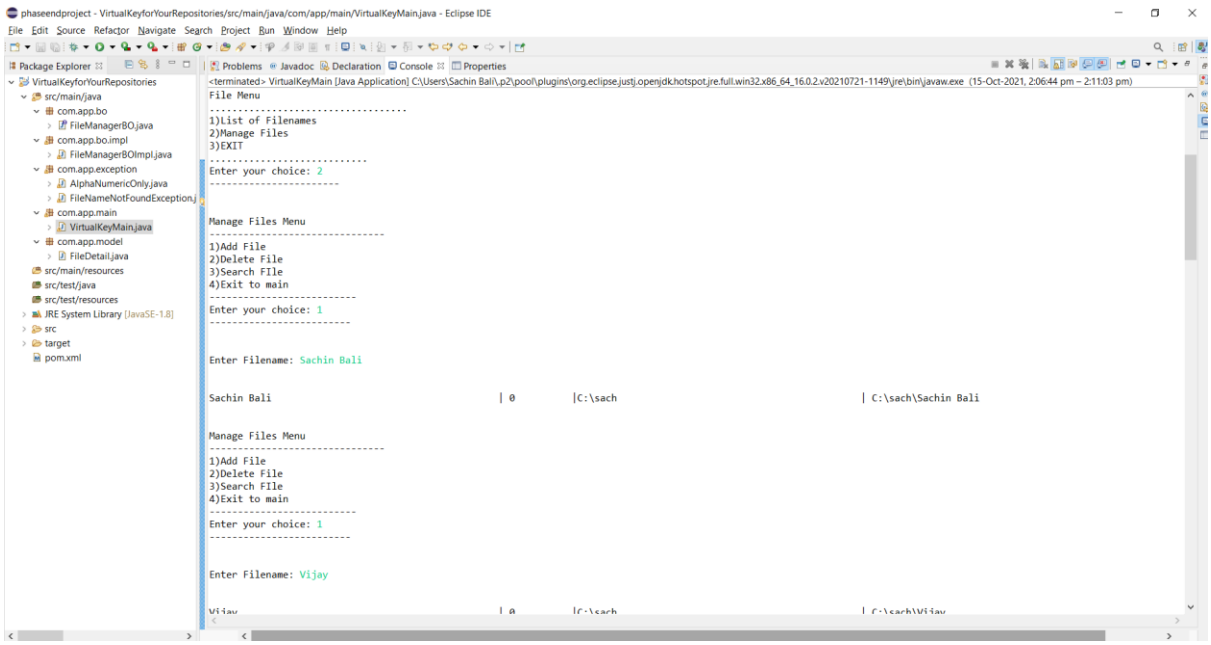
**Link to the GitHub Repository:**

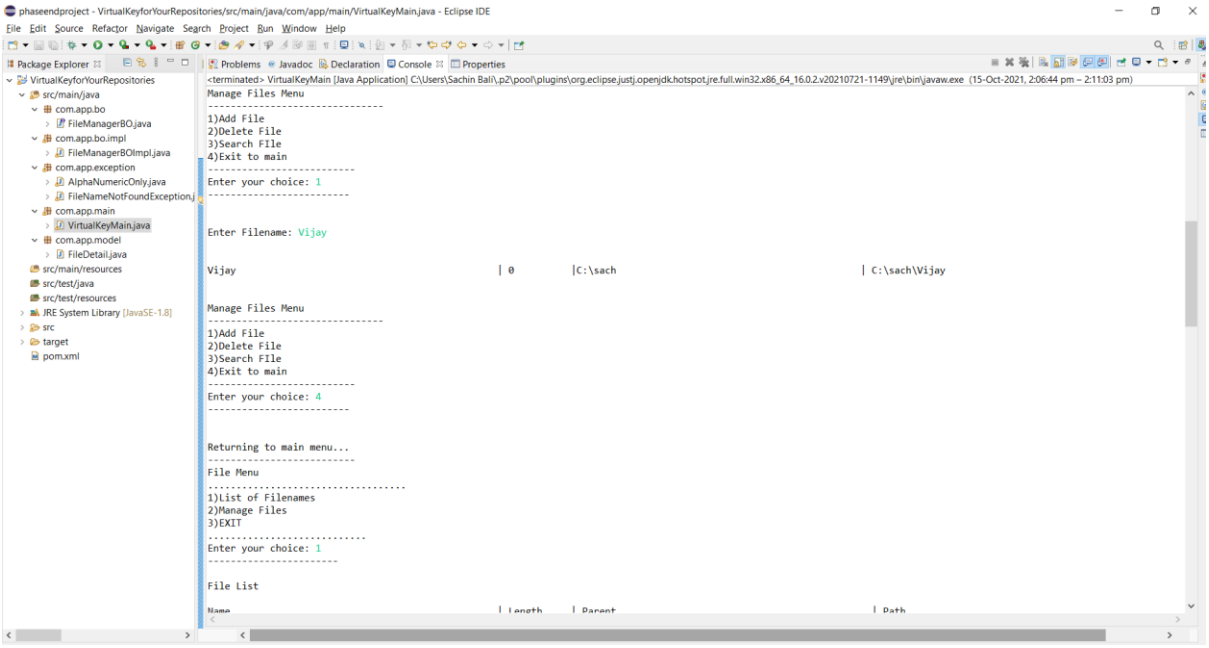
**https://github.com/Sachin-3333/Virtual-Key-For-Your-Repositories.git**

## ✧ SCREENSHOTS OF OUTPUT:

## ✧ WELCOME SCREEN:




phaseendproject - VirtualKeyforYourRepositories/src/main/java/com/app/main/VirtualKeyMain.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
VirtualKeyforYourRepositories
src/main/java
com.app.bo
FileManagerBO.java
com.app.bo.impl
FileManagerBOImpl.java
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FileNameNotFoundException.j
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src/test/java
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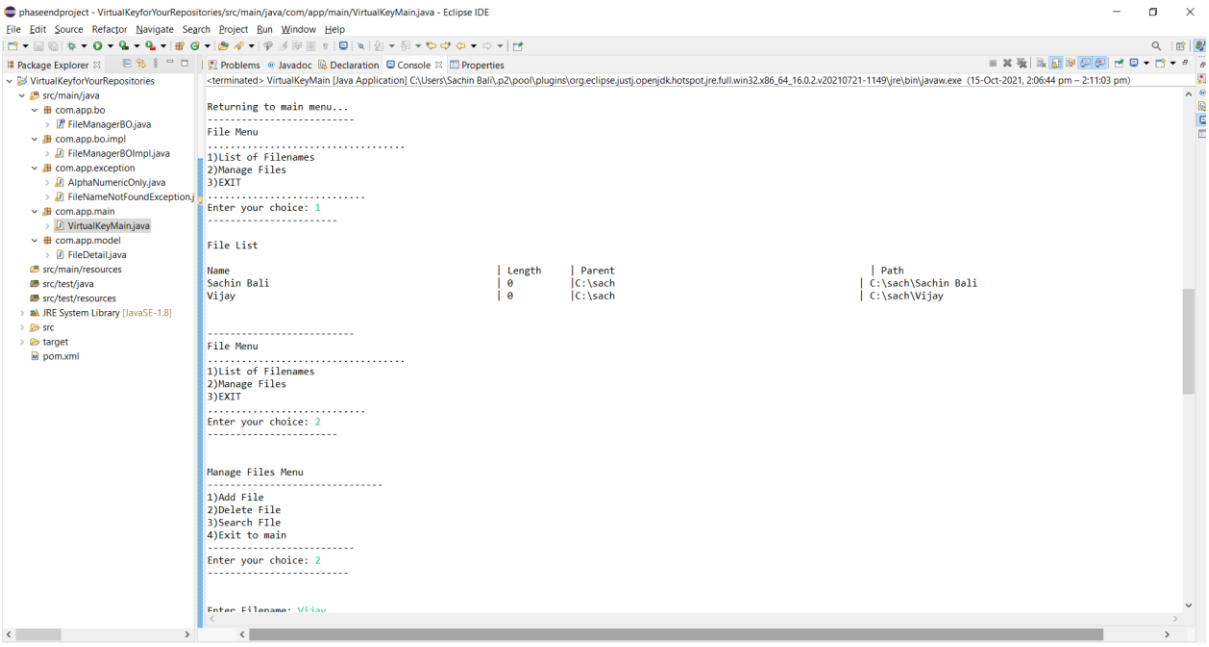
JRE System Library [JavaSE-1.8]
src
target
pom.xml
Problems Javadoc Declaration Console Properties
<terminated> VirtualKeyMain [Java Application] C:\Users\Sachin Bali\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149\jre\bin\javaw.exe (15-Oct-2021, 2:06:44 pm – 2:11:03 pm)
Manage Files Menu
1)Add File
2)Delete File
3)Search FIle
4)Exit to main
Enter your choice: 1
Enter Filename: Vijay
Vijay | 0 |C:\sach | C:\sach\Vijay
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 of Filenames
2)Manage Files
3)EXIT
Enter your choice: 1
File List
Name | Length | Parent | Path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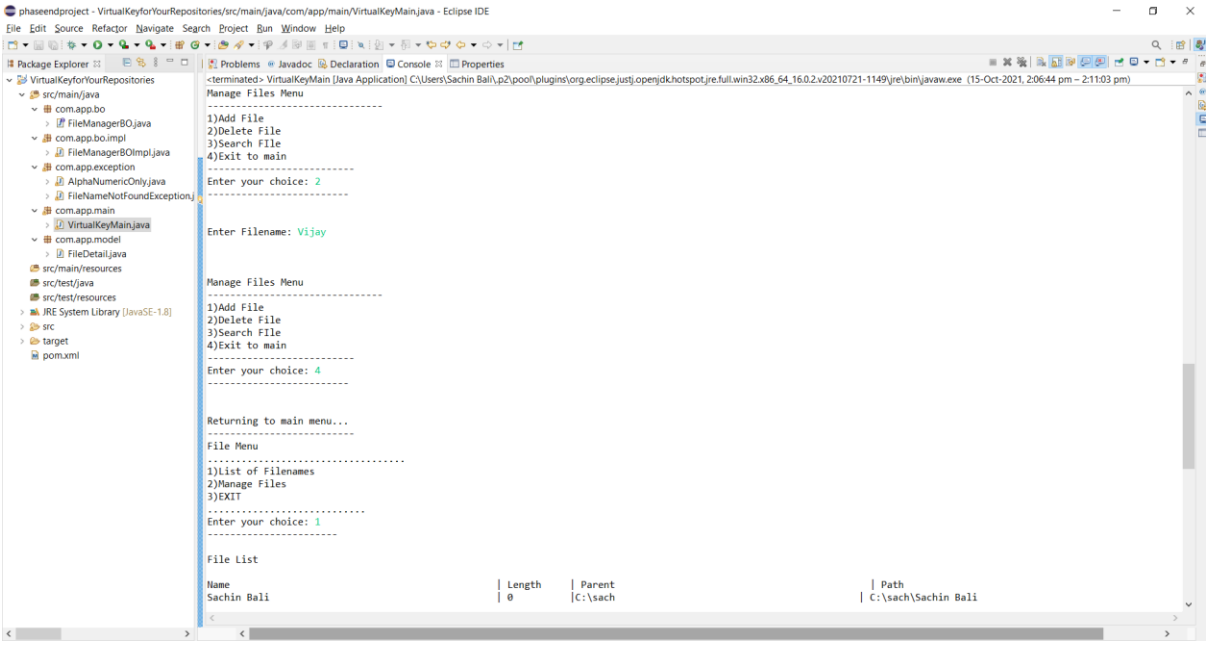
Returning to main menu...
File Menu
1)List of Filenames
2)Manage Files
3)EXIT
Enter your choice: 1
File List
Name | Length | Parent | Path
Sachin Bali | 0 |C:\sach | C:\sach\Sachin Bali
Vijay | 0 |C:\sach | C:\sach\Vijay
File Menu
1)List of Filenames
2)Manage Files
3)EXIT
Enter your choice: 2
Manage Files Menu
1)Add File
2)Delete File
3)Search FIle
4)Exit to main
Enter your choice: 2
Enter Filename: Vijay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Enter your choice: 4
Returning to main menu...
File Menu
1)List of Filenames
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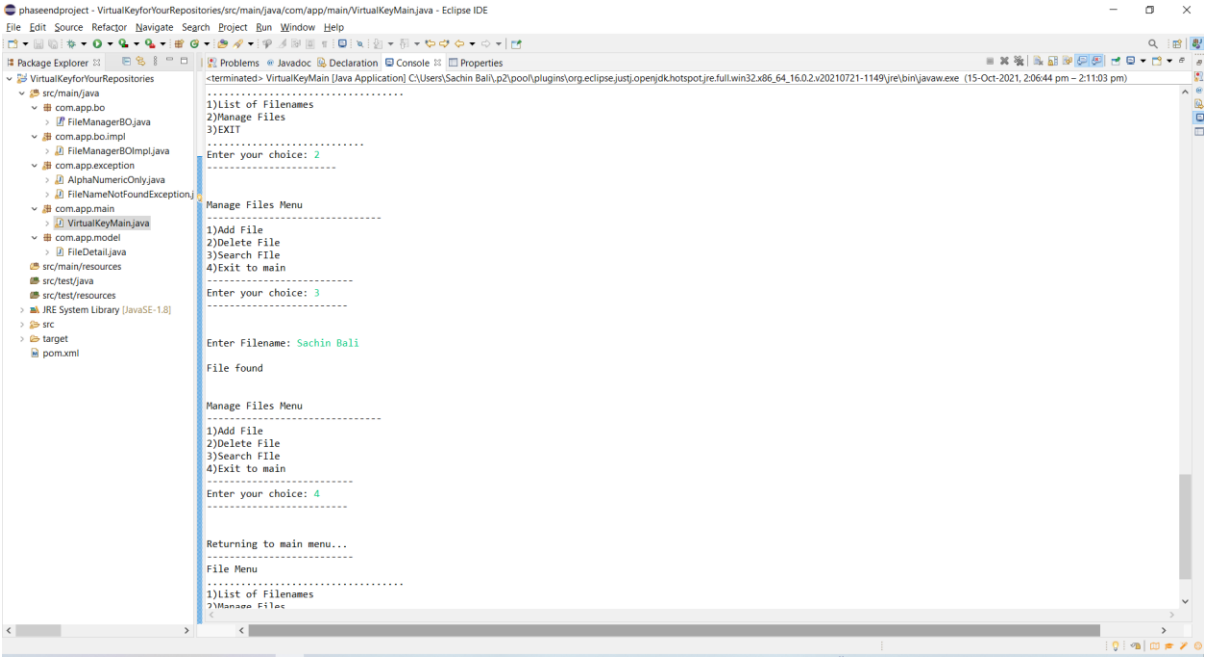
3)EXIT
Enter your choice: 1
File List
Name | Length | Parent | Path
Sachin Bali | 0 | C:\sach | C:\sach\Sachin Bali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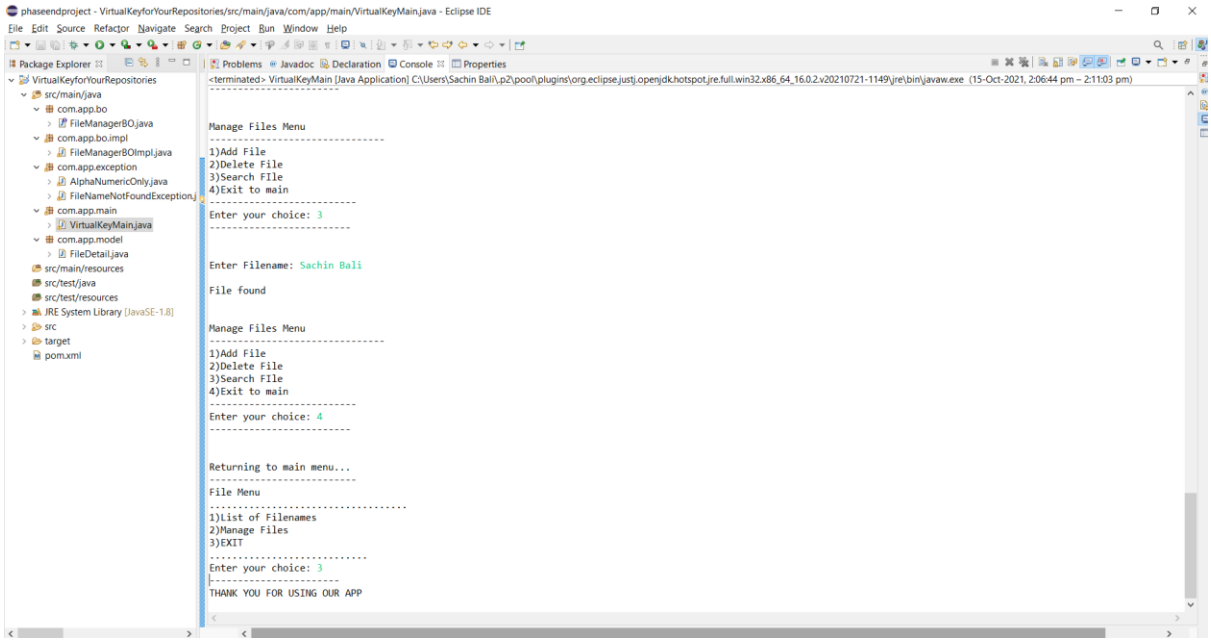
1)List of Filenames
2)Manage Files
3)EXIT
Enter your choice: 2
Manage Files Menu
1)Add File
2)Delete File
3)Search FIle
4)Exit to main
Enter your choice: 3
Enter Filename: Sachin Bali
File found
Manage Files Menu
1)Add File
2)Delete File
3)Search FIle
4)Exit to main
Enter your choice: 4
Returning to main menu...
File Menu
1)List of Filenames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4)Exit to main
Enter your choice: 3
Enter Filename: Sachin Bali
File found
Manage Files Menu
1)Add File
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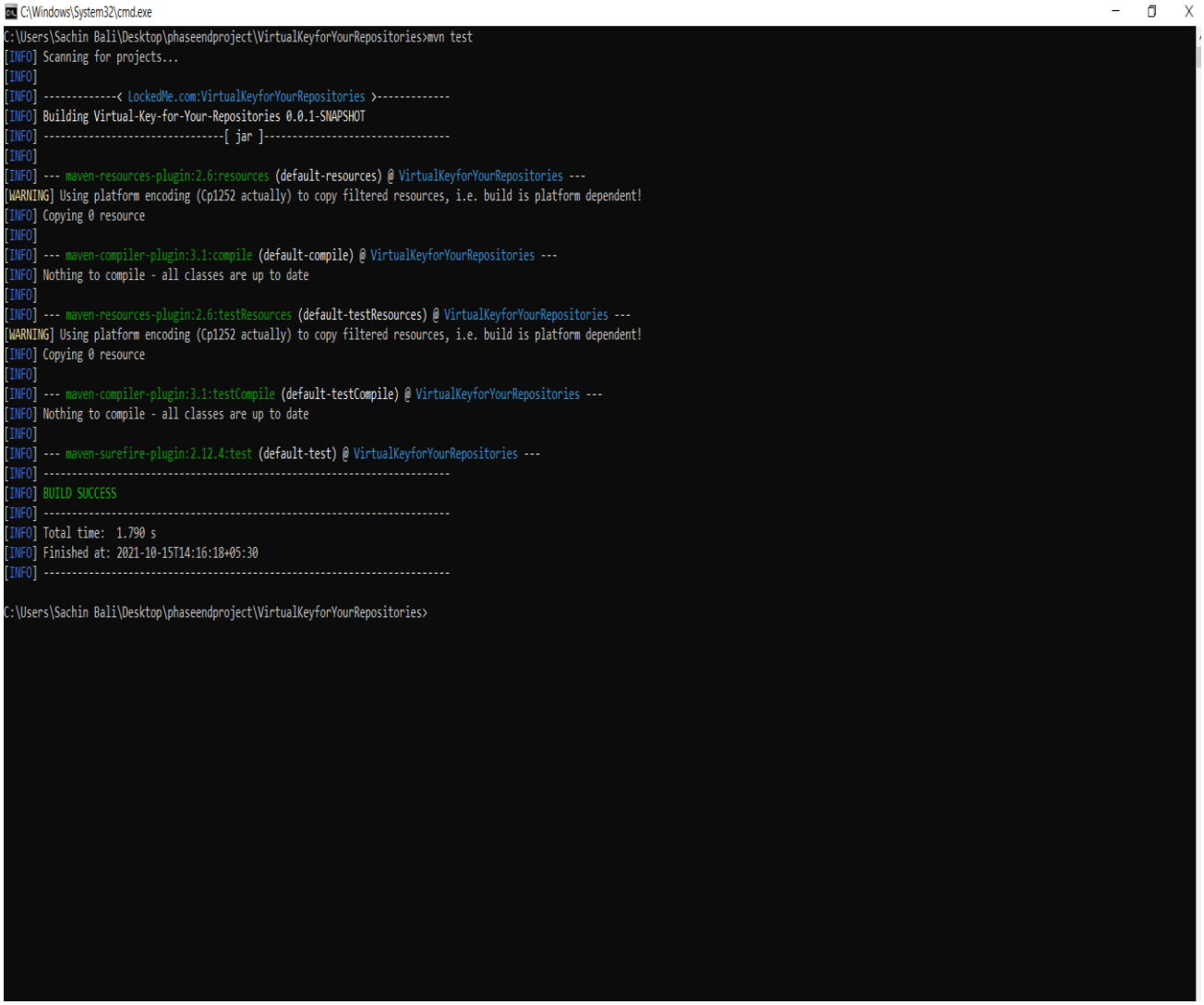
3)Search FIle
4)Exit to main
Enter your choice: 4
Returning to main menu...
File Menu
1)List of Filenames
2)Manage Files
3)EXIT
Enter your choice: 3
THANK YOU FOR USING OUR APP

## The output taken from command prompt :




## 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..