**Algorithm**

**Step 1:** Create an Interface VirtualKeyScreens in package screens which consist of three abstract method as below 1. showMenu();

2. getInputFromUser();

3. navigateOption(int option);

**Step 2:** Create Welcomescreen class which implement VirtualKeyScreens interface in same class package screens and implement above abstract method.

**Step 3:** Initalize Welcome text , Developer text and Array list for main menun option

**Step 4:** write a constructor for displaying Main menu options using above declared Arraylist which gets called on creating object of welcomescreen class in main method.

**Step 5:** Write method Appinfo() for displaying welcome text and developer text which gets call first.

**Step 6:** Write a showMenu() method for displaying main menu on welcome screens using arraylist.

**Step 7:** Write getInputFromUser() method to get input from user for Main menu options which gets called after displaying welcome message.

**Step 8:** In getInputFromUser() method , create a getOption() method which handles invalid input using exception handling. Get input as integer with scanner class in try block. In exception handling handle inputmismatchExecption()

**Step 9:** Add one more method navigateOption(user input) in getInputFromUser() method tp get option from user using switch case. In switch case, write case:

1. For displaying avaliable files with showfiles() method

2. Navigating to file menu and default for invlalid option user

**Step 10:** Create FileDirectory class in fuctionpackage.Initailize static final String filepath as "src\\directory\\" and ArrayList of File.Thencraete object of File passing filepath as argument.

**Step 11:** Write getName() method that return filenames present at filepath, showFiles() method for displayingfiles and method getFiles() for adding list of files to ArrayList of files and for retrieving sorted files available in directory folder.

**Step 12:** Create a class DirectoryFunctions in functions package and write a static method displayFiles() for displaying sorted files which gets called by creating object of FileDirectory class.

**Step 13:** Write a showFiles() method in WelcomeScreen class which is used to show files when User enters Main Menu option as 1.

**Step 14:** Create a class ScreenFunctions to switch between WelcomeScreen and FileOperationsScreen.In this class, initialize object of WelcomeScreen class, object of FileOperationsScreen class and reference of VirtualKeyScreensinterface that is assign to object of WelcomeScreenclass.Also write Setter and Getter for this class.

**Step 15:** Now create FileOperationsScreen class which implements VirtualKeyScreensinterface in same package and implement above abstract methods.Initailize object of FileDirectory class. Initailize an ArrayList of String for File Operations Menu options.

**Step 16:** The Abstract methods initalization is same as methods in WelcomeScreen class which areimplemented from VirtualKeyScreensinterface.

**Step 17:** Write a method addFile() that gets input filename which User wants to Add in system.Createa object of File named as file in try block.Inside the try block put If condition as file.createNewFile(); and call fileDirectory.getFiles().add(file); method.If File Added Successfully it will return true in If condition else it will show message as"This File Already Exits, no need to add another".In catch block throw IOException.

**Step 18:** Write a method deleteFile() that gets input filename which User wants to Delete in system.Initailize Path variable and create object of File to get filenames.Inside If condition, call fileDirectory.getFiles().remove(file); method to delete file.And in else part write "Failed to delete file, file was not found." message.

**Step 19:** Write a method searchFile() that gets input filename which User wants to Search in system.In this method, create ArrayList of File which stores the list of available files in sytem.Using .equals method in If condition search a required filename and if required filename found in ArrayList of files, set Boolean variable found to True else set it to False.

**Step 20:** Create a package lockedme and write a main method inside a class LockedMeApplication. Now initialize a object of Welcome Screen class and call showWelcomeMessage() first and then getInputFromUser().