APPLICATION EXECUTION: The program uses **Java 17 so JDK/JRE** must be on that
level.
The program can be run after unzipping the code and opening the java directory
in a command line using **cd** command:

Linux/macOS: `cd  code/src/main/java`

Windows: `cd code\src\main\java`

All the below command must be run inside java directory
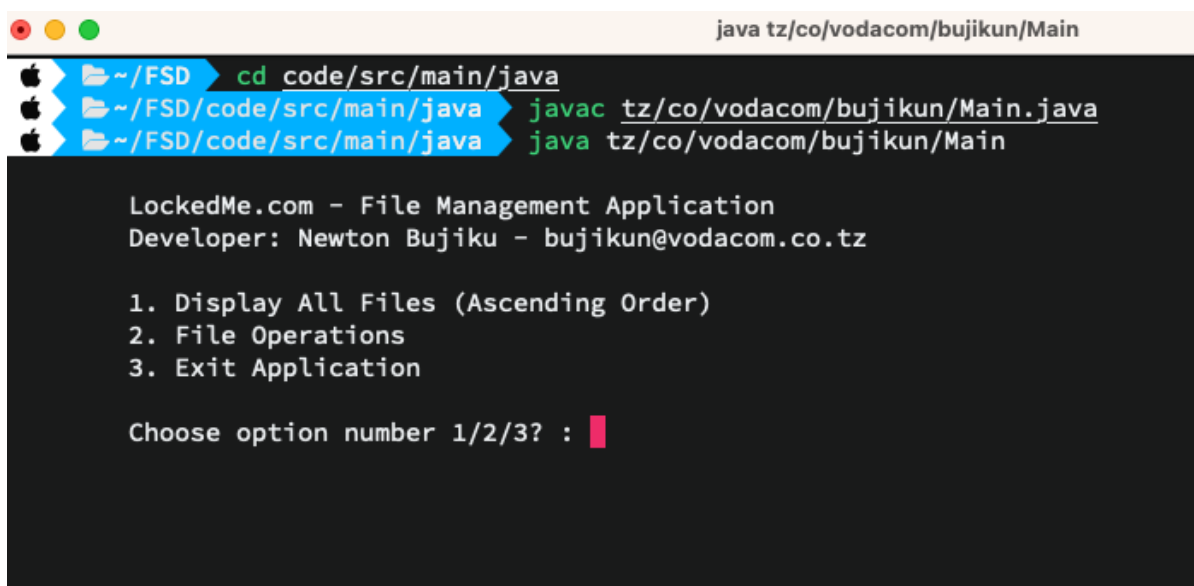
Then compiling using **javac** command:

Linux/macOS: `javac tz/co/vodacom/bujikun/Main.java`

Windows: `javac tz\co\vodacom\bujikun\Main.java`

Then execution using **java** command:

Linux/macOS: `java tz/co/vodacom/bujikun/Main`

Windows: `java tz\co\vodacom\bujikun\Main`

1.Displaying files

When the program launches, it will create 2 files in the root directory which can be found from the location where the app was launched from.These can be viewed by choosing 1 from the main menu.

```
● ● ●                          java tz/co/vodacom/bujikun/Main

   ~/FSD    cd code/src/main/java
   ~/FSD/code/src/main/java    javac tz/co/vodacom/bujikun/Main.java
   ~/FSD/code/src/main/java    java tz/co/vodacom/bujikun/Main

      LockedMe.com - File Management Application
      Developer: Newton Bujiku - bujikun@vodacom.co.tz

      1. Display All Files (Ascending Order)
      2. File Operations
      3. Exit Application

      Choose option number 1/2/3? : 1

      ROOT DIRECTORY: /Users/newtonbujiku/FSD/code/src/main/java/root
      Available Files:

      1. file-0@autogenerated.txt
      2. file-1@autogenerated.txt

      Enter * to go back to main menu: ▊
```

The program will also create additional files if launched with command line options like below

```
●                  java tz/co/vodacom/bujikun/Main custom-user-file anotherfile file.txt oop.doc

 ~/FSD/code/src/main/java    java tz/co/vodacom/bujikun/Main custom-user-file anotherfile file.txt oop.docx

  LockedMe.com - File Management Application
  Developer: Newton Bujiku - bujikun@vodacom.co.tz

  1. Display All Files (Ascending Order)
  2. File Operations
  3. Exit Application

  Choose option number 1/2/3? : 1

  ROOT DIRECTORY: /Users/newtonbujiku/FSD/code/src/main/java/root
  Available Files:

  1. anotherfile
  2. custom-user-file
  3. file-0@autogenerated.txt
  4. file-1@autogenerated.txt
  5. file.txt
  6. oop.docx

  Enter * to go back to main menu: ▊
```

Navigation

The application uses * for navigation through various application part. Any attempt to create a file containing * will be ignored. If a file containing * is created manually in the root directory, it will be deleted by a watcher thread.

2.a Creating a new file

All user entered valid file names will be created as files in the root directory When a file is created successfully the application will print a success message and list all file and go back to file operations menu. If the file was not created an error message will be printed.

```
                                  java tz/co/vodacom/bujikun/Main custom-user-file anotherfile file.txt oop
        LockedMe.com - File Management Application
        Developer: Newton Bujiku - bujikun@vodacom.co.tz

        1. Display All Files (Ascending Order)
        2. File Operations
        3. Exit Application

        Choose option number 1/2/3? : 2

        2. File Operations
                a. Create a new file
                b. Delete a file
                c. Search a file
                d. Search a file by character sequence
                *. Back To Main Screen

        Choose an option a/b/c/d/*?: a
        2a. File Creation

        Enter file name or * to go back: file-created-from-user-input.txt

        File successfully created: root/file-created-from-user-input.txt

        ROOT DIRECTORY: /Users/newtonbujiku/FSD/code/src/main/java/root
        Available Files:

        1. anotherfile
        2. custom-user-file
        3. file-0@autogenerated.txt
        4. file-1@autogenerated.txt
        5. file-created-from-user-input.txt
        6. file.txt
        7. oop.docx

        2. File Operations
                a. Create a new file
                b. Delete a file
                c. Search a file
                d. Search a file by character sequence
                *. Back To Main Screen

        Choose an option a/b/c/d/*?: ▋
```

2.b File deletion

```
java tz/co/vodacom/bujikun/Main custom-user-file anotherfile file.txt oop.doc

    2. File Operations
            a. Create a new file
            b. Delete a file
            c. Search a file
            d. Search a file by character sequence
            *. Back To Main Screen

    Choose an option a/b/c/d/*?: b
    2b. File Deletion


    ROOT DIRECTORY: /Users/newtonbujiku/FSD/code/src/main/java/root
    Available Files:

    1. anotherfile
    2. custom-user-file
    3. file-0@autogenerated.txt
    4. file-1@autogenerated.txt
    5. file-created-from-user-input.txt
    6. file.txt
    7. oop.docx

    Enter name of the file to be deleted or * to go back: file.txt


    File successfully deleted: /Users/newtonbujiku/FSD/code/src/main/java/root/file.txt
```

2.c File Search by exact file name

A name of the file and extension(if any) must be typed exactly otherwise it will be an error

```
2. File Operations
        a. Create a new file
        b. Delete a file
        c. Search a file
        d. Search a file by character sequence
        *. Back To Main Screen

Choose an option a/b/c/d/*?: c
2b. File Search

Enter exact name of the file to be searched or * to go back: oop.docx

Found file: /Users/newtonbujiku/FSD/code/src/main/java/oop.docx

2. File Operations
        a. Create a new file
        b. Delete a file
        c. Search a file
        d. Search a file by character sequence
        *. Back To Main Screen

Choose an option a/b/c/d/*?: c
2b. File Search

Enter exact name of the file to be searched or * to go back: fakefile.pdf

File not present in the root directory

2. File Operations
        a. Create a new file
        b. Delete a file
        c. Search a file
        d. Search a file by character sequence
        *. Back To Main Screen

Choose an option a/b/c/d/*?: 
```

2.d File search by a sequence of characters
Provide a search string, and if any of the file names contains that string, the file will be displayed.

```
2. File Operations
        a. Create a new file
        b. Delete a file
        c. Search a file
        d. Search a file by character sequence
        *. Back To Main Screen

Choose an option a/b/c/d/*?: d
2b. File Search By Character Sequence

Enter character(s) to  be used in search or * to go back: us

Found 2 files :

        custom-user-file
        file-created-from-user-input.txt

2. File Operations
        a. Create a new file
        b. Delete a file
        c. Search a file
        d. Search a file by character sequence
        *. Back To Main Screen

Choose an option a/b/c/d/*?: d
2b. File Search By Character Sequence

Enter character(s) to  be used in search or * to go back: ed

Found 3 files :

        file-0@autogenerated.txt
        file-1@autogenerated.txt
        file-created-from-user-input.txt
```

Source Code Documentation

There is also a java doc generated documentation that contains all the information about classes and methods and what they do. This can be reached in the directory

/code/documentation and clicking the **index.html** which will open in the browser.

OVERVIEW   PACKAGE   CLASS   USE   TREE   INDEX   HELP

Packages

Package	Description
tz.co.vodacom.bujikun	
tz.co.vodacom.bujikun.thread	
tz.co.vodacom.bujikun.util	

OVERVIEW   PACKAGE   CLASS   USE   TREE   INDEX   HELP

PACKAGE: DESCRIPTION | RELATED PACKAGES | CLASSES AND INTERFACES

Package tz.co.vodacom.bujikun.util

```
package tz.co.vodacom.bujikun.util
```

Related Packages

Package	Description
tz.co.vodacom.bujikun	
tz.co.vodacom.bujikun.thread	

Classes

Class	Description
AppUtility	Groups methods for general application manipulation like displaying content and user navigation
FileUtility	This contains static methods for file operations

Method Summary

All Methods	Static Methods	Concrete Methods

Modifier and Type	Method	Description
static int	**binarySearch**(**List**<**String**> list, **String** searchString)	Does a binary search of a given string from a list of file names
static boolean	**containsSubstring**(**String** searchMe, **String** findMe)	Checks if the givem character sequence appears on a given string
static void	**createInitialFiles**(**String**[] userFileNames)	Launches a thread to create initial files in the directory from the command line arguments.
static void	**createNewFile**()	Creates a new file in the directory if it adheres to the provided rules
static void	**deleteDirectory**(**String** dirName)	Deletes a directory after looping through each contained file and deleting them.
static void	**deleteFile**()	Reads input from the user for a file name and deletes it if it's present.
static **List**<**String**>	**getAllFileNamesInADirectory**(**String** directoryName)	Fetches all the names of the files in the directory
static void	**searchBySubstring**()	Reads input from the user for a sequence of characters and checks if it matches any file names and prints the results on the screen
static void	**searchFile**()	Reads input from the user for an exact file name and searches for it and prints the results on the screen
static **List**<**String**>	**sortBySelectionSort**(**List**<**String**> files)	Sorts a given list using a Selection Sort