1. Read initial data from text file into array lists (actors, movies, years).

2. Loop:

   a. Display menu options.

   b. Accept user choice.

   c. Perform corresponding action:

     i. Calculate Bacon Number:

       - Accept actor's name.

       - Check if actor has appeared with Kevin Bacon.

       - If not, check if they've appeared with an actor who has.

       - Display Bacon Number.

     ii. Add entry:

       - Accept actor's name, movie, and year.

       - Add entry to array lists and update text file.

     iii. Delete entry:

       - Accept actor's name to delete.

       - Delete entry from array lists and update text file.

     iv. Quit program:

       - Exit loop.

3. End program.

Errors:

```
Select Options (Enter Q to quit):
1. Search movie
2. Add Entry
3. Delete Entry
4Exception in thread "main" java.util.NoSuchElementException: No line found
        at java.base/java.util.Scanner.nextLine(Scanner.java:1677)
        at DOFSmith.main(DOFSmith.java:17)

C:\Program Files\Java\jdk-22.0.1\bin>java C:\Users\jaron\Downloads\Pa8\DOFSmith.java
java.io.FileNotFoundException: list.txt (The system cannot find the file specified)
        at java.base/java.io.FileInputStream.open0(Native Method)
        at java.base/java.io.FileInputStream.open(FileInputStream.java:213)
        at java.base/java.io.FileInputStream.<init>(FileInputStream.java:152)
        at java.base/java.io.FileInputStream.<init>(FileInputStream.java:106)
        at java.base/java.io.FileReader.<init>(FileReader.java:60)
        at DOFSmith.readLinesFromFile(DOFSmith.java:47)
        at DOFSmith.main(DOFSmith.java:10)
        at java.base/jdk.internal.reflect.DirectMethodHandleAccessor.invoke(DirectMethodHandleAccessor.java:103)
        at java.base/java.lang.reflect.Method.invoke(Method.java:580)
        at jdk.compiler/com.sun.tools.javac.launcher.SourceLauncher.execute(SourceLauncher.java:264)
        at jdk.compiler/com.sun.tools.javac.launcher.SourceLauncher.run(SourceLauncher.java:153)
        at jdk.compiler/com.sun.tools.javac.launcher.SourceLauncher.main(SourceLauncher.java:78)
Select Options (Enter Q to quit):
1. Search movie
2. Add Entry
3. Delete Entry
```

```
C:\Users\jaron\Downloads\Pa8\DOFSmith.java:90: error: implicitly declared classes are a preview feature and are disabled
by default.
    private static void addEntry(List<String> lines, String entry) {
                      ^
  (use --enable-preview to enable implicitly declared classes)
C:\Users\jaron\Downloads\Pa8\DOFSmith.java:97: error: class, interface, enum, or record expected
}
^
3 errors
error: compilation failed

C:\Program Files\Java\jdk-22.0.1\bin>java C:\Users\jaron\Downloads\Pa8\DOFSmith.java
C:\Users\jaron\Downloads\Pa8\DOFSmith.java:74: error: illegal start of expression
        private static void searchMovie(List<String> lines, String actor) {
                      ^
C:\Users\jaron\Downloads\Pa8\DOFSmith.java:90: error: implicitly declared classes are a preview feature and are disabled
by default.
    private static void addEntry(List<String> lines, String entry) {
                      ^
  (use --enable-preview to enable implicitly declared classes)
C:\Users\jaron\Downloads\Pa8\DOFSmith.java:97: error: class, interface, enum, or record expected
}
^
3 errors
error: compilation failed

C:\Program Files\Java\jdk-22.0.1\bin>
```

```
C:\Program Files\Java\jdk-22.0.1\bin>java C:\Users\jaron\Downloads\Pa8\DOFSmith.java
Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: Index 1 out of bounds for length 1
        at DOFSmith.loadFile(DOFSmith.java:58)
        at DOFSmith.main(DOFSmith.java:12)

C:\Program Files\Java\jdk-22.0.1\bin>
```

```
java: cannot find symbol
  symbol:   method subList(int,int)
  location: variable parts of type java.lang.String[]
```

```
Exception in thread "main" java.lang.NumberFormatException Create breakpoint : For input string: "Der Ewige Jude 1940"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
    at java.base/java.lang.Integer.parseInt(Integer.java:665)
    at java.base/java.lang.Integer.parseInt(Integer.java:781)
    at DegreesOfKevinBacon.readDataFromFile(DegreesOfKevinBacon.java:47)
    at DegreesOfKevinBacon.main(DegreesOfKevinBacon.java:12)
```

```
Connected to the target VM, address: '127.0.0.1:57637', transport: 'socket'
Exception in thread "main" java.lang.NumberFormatException: For input string: "Der Ewige Jude 1940"
Disconnected from the target VM, address: '127.0.0.1:57637', transport: 'socket'
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
    at java.base/java.lang.Integer.parseInt(Integer.java:665)
    at java.base/java.lang.Integer.parseInt(Integer.java:781)
    at DegreesOfKevinBacon.readDataFromFile(DegreesOfKevinBacon.java:48)
    at DegreesOfKevinBacon.main(DegreesOfKevinBacon.java:12)

Process finished with exit code 1
```

```
Exception in thread "main" java.lang.IndexOutOfBoundsException Create breakpoint : Index 0 out of bounds for length 0 <3 internal lines>
    at java.base/java.util.Objects.checkIndex(Objects.java:385)
    at java.base/java.util.ArrayList.get(ArrayList.java:427)
    at DegreesOfKevinBacon.updateDataFile(DegreesOfKevinBacon.java:128)
    at DegreesOfKevinBacon.main(DegreesOfKevinBacon.java:37)
```

```
Actor: Adolf Hitler Der Ewige Jude
Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException Create breakpoint : Index 2 out of bounds for length 2
    at DegreesOfKevinBacon.readDataFromFile(DegreesOfKevinBacon.java:55)
    at DegreesOfKevinBacon.main(DegreesOfKevinBacon.java:12)
```

```
Exception in thread "main" java.lang.IndexOutOfBoundsException Create breakpoint : Index 0 out of bounds for length 0 <3 internal lines>
    at java.base/java.util.Objects.checkIndex(Objects.java:385)
    at java.base/java.util.ArrayList.get(ArrayList.java:427)
    at DegreesOfKevinBacon.updateDataFile(DegreesOfKevinBacon.java:144)
    at DegreesOfKevinBacon.main(DegreesOfKevinBacon.java:40)
```

```
Jennifer
Enter Movie:
X Men First Class
Enter Year:
2011
Entry added successfully.
Select Options (Enter Q to Quit):
1. Search movie
2. Bacon Degrees of Freedom
3. Add Entry
4. Delete Entry
Exception in thread "main" java.util.NoSuchEleme

C:\Users\jaron\Downloads\Pa8>java DOFJaronEmre.j
Select Options (Enter Q to Quit):
1. Search movie
2. Bacon Degrees of Freedom
3. Add Entry
4. Delete Entry
4
Enter Actor to delete:
Jennifer Lawrence
Entry deleted successfully.
Select Options (Enter Q to Quit):
1. Search movie
2. Bacon Degrees of Freedom
3. Add Entry
4. Delete Entry
Exception in thread "main"
```

-----------------------------------Test Runs:

```
Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice: 4
Exiting program...

C:\Program Files\Java\jdk-22.0.1\bin>java C:\Users\jaron\Downloads\Pa8\DO
FSmith.java
list.txt
Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice: 4
Exiting program...
```

```
Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice: 1
Enter actor's full name: Julia Roberts Valentine's
Julia Roberts Valentine's not found in the list.

Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice:
```

```
Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice: 1
Enter actor's full name: kevin
kevin not found in the list.

Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice: 1
Enter actor's full name: Kevin
Kevin is not connected to Kevin Bacon within 2 degrees.

Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice: 1
Enter actor's full name: Kevin Bacon
Kevin Bacon not found in the list.

Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
Enter your choice: 4
Exiting program...
```

```
static members of DegreesOfKevinBacon
  > (F) FILENAME = "list.txt"
  > ! actors = {ArrayList@743} size = 1
  > ! movies = {ArrayList@744} size = 1
      (F) years = {ArrayList@745} size = 0
  > ≡ fileScanner = {Scanner@772} "java.util.Scanner[delimiters=\p{javaWhitespace}+][position=34][match valid=true][need input=false][source clo
  > ≡ line = "Adolf Hitler Der Ewige Jude 1940"
  > ≡ parts = {String[2]@1003} ["Adolf", "Hitler Der Ewig..."]
  > ≡ movieYearParts = {String[2]@1007} ["Hitler", "Der Ewige Jude ..."]
  > ∞ movies = {ArrayList@744} size = 1
  > ∞ movieYearParts[1] = "Der Ewige Jude 1940"
  > ∞ movieYearParts[0] = "Hitler"
      ∞ years = {ArrayList@745} size = 0
```

```
C:\Users\jaron\.jdks\temurin-19.0.2\bin\java.exe "-javaagent:D:\Program Files\JetBrains\IntelliJ IDEA 2023.2.4\lib\idea_rt.jar
Select Options (Enter Q to Quit)
1. Calculate Bacon Number
2. Add Entry
3. Delete Entry
1
Enter Actor:
Brad Pitt
Brad Pitt has Bacon Number = -1
Select Options (Enter Q to Quit)
1. Calculate Bacon Number
2. Add Entry
3. Delete Entry
1
Enter Actor:
Tom Cruise
Tom Cruise has Bacon Number = -1
Select Options (Enter Q to Quit)
1. Calculate Bacon Number
2. Add Entry
3. Delete Entry
1
Enter Actor:
Kevin Spacey
Kevin Spacey has Bacon Number = -1
Select Options (Enter Q to Quit)
1. Calculate Bacon Number
2. Add Entry
3. Delete Entry
```

```
Valentine's Day
Enter Year:
2011
Entry added successfully.
Select Options (Enter Q to Quit)
1. Calculate Bacon Number
2. Add Entry
3. Delete Entry
3
Enter Actor to delete:
Julia Roberts
Entry deleted successfully.
Select Options (Enter Q to Quit)
1. Calculate Bacon Number
2. Add Entry
3. Delete Entry
q
```

```
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
1
Enter Movie:
Julia Roberts
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
1
Enter Movie:
Valentine's Day
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
2
Enter Actor:
Julia Roberts
Julia Roberts has Bacon Number = -1
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
q
```

Evaluate expression (Enter) or add a watch (Ctrl+Shift+Enter)
> ⓢ static members of DegreesOfKevinBacon
> ⓟ scanner = {Scanner@971} "java.util.Scanner[delimiters=\p{javaWhitespace}+][position=16][match valid=true][need input=false][source closed=false][skipped=false][group separator=\x{2c}][decimal separator=\x{2e}][positive prefix=][negative prefi
> 🗐 actorName = "julia roberts"
  ∞ movies = {ArrayList@972} size = 0
> ∞ actors = {ArrayList@973} size = 40
  ∞ years = {ArrayList@974} size = 0

```
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
1
Enter Actor:
Julia Roberts
Julia Roberts acted in the movie Valentine's Day in the year 2010
Julia Roberts acted in the movie Flatliners in the year 1990
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
q

Process finished with exit code 0
```

```
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
1
Enter Actor:
Julia Roberts
Julia Roberts acted in the movie Valentine's Day in the year 2010
Julia Roberts acted in the movie Flatliners in the year 1990
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
2
Enter Actor:
Julia Roberts
Julia Roberts has Bacon Number = 1
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
2
Enter Actor:
Rom Cruise
Rom Cruise has Bacon Number = -1
Select Options (Enter Q to Quit):
1. Search movie
2. Calculate Bacon Number
3. Add Entry
4. Delete Entry
2
Enter Actor:
```