PSUEDO CODE:

class KevinBaconDegreesSharmaKim

   actors: ArrayList<String>

   movies: ArrayList<String>

   method loadFromFile()

     Read data from file "list.txt"

     For each line in the file

       Split the line into parts

       Extract actor and movie from parts

       Add actor and movie to respective lists

   method calculateBaconNumber(actorName: String) -> int

     actorIndex = index of actorName in actors list

     if actorIndex == -1

       Print actorName not found

       Return -1

     actorMovies = ArrayList<String>

     for each entry in actors list

       if entry is actorName

         Add corresponding movie to actorMovies

     for each entry in actors list

       if entry is "Kevin Bacon" and corresponding movie is in actorMovies

         Return 1

Return 2

method run()
  Load data from file
  Repeat until user chooses to quit
    Display menu options
    Read user's choice
    Switch based on user's choice
      Case 1:
        Prompt user for actor's name
        Call calculateBaconNumber method with actor's name
        Display actor's Bacon number
      Case 2:
        Prompt user for new actor's name, movie, and year
        Add new entry to the list
        Save changes to file
      Case 3:
        Prompt user for actor's name and movie to delete
        Delete specified entry from the list
        Save changes to file
      Case 4:
        Quit the program
      Default:
        Display error message for invalid choice

method main()

Create KevinBaconDegrees instance

Call run method

ERRORS:

Most errors were splitting the text and storing them into arrays along with calculating the baconNumber. Solved by debugging through print statements and using a variety of test cases.

```
Comparing with: Anne, Hathaway Valentine's Day
Comparing with: Benedict, Cumberbatch The Hobbit: An unexpected Journey
Comparing with: Benedict, Cumberbatch Black Mass
Comparing with: Brad, Pitt Mr. & Mrs. Smith
Comparing with: Brad, Pitt Sleepers
Comparing with: Brad, Pitt Ocean's Thirteen
Comparing with: Brad, Pitt Beyond All Boundaries
Comparing with: Brad, Pitt Se7en
Comparing with: Christian, Bale The Fighter
Comparing with: Curt, Bois Der Ewige Jude
Comparing with: Curt, Bois The Great Sinner
Comparing with: Denzel, Washington 2 Guns
Comparing with: Denzel, Washington The Equalizer
Comparing with: David, Struffolino The Equalizer
Comparing with: David, Struffolino Knight and Day
Comparing with: Hugh, Jackman Flushed Away
Comparing with: Hugh, Jackman X Men First Class
Comparing with: Ian, McKellen The Hobbit: An unexpected Journey
Comparing with: Julia, Roberts Valentine's Day
Comparing with: Julia, Roberts Flatliners
Comparing with: Kate, Winslet Flushed Away
Comparing with: Kenneth, Tobey The Great Sinner
Comparing with: Kenneth, Tobey Hero at Large
Comparing with: Kevin, Bacon Sleepers
Comparing with: Kevin, Bacon Beyond All Boundaries
Comparing with: Kevin, Bacon Flatliners
Comparing with: Kevin, Bacon Patriots Day
Comparing with: Kevin, Bacon Black Mass
Comparing with: Kevin, Bacon X Men First Class
Comparing with: Kevin, Bacon Hero at Large
Comparing with: Kevin, Spacey Se7en
Comparing with: Kevin, Spacey Patriots Day
Comparing with: Kevin, Spacey Austin Powers in Goldmember
Comparing with: Mark, Wahlberg 2 Guns
Comparing with: Mark, Wahlberg Patriots Day
```

```
  └ ──jGRASP: process ended by user.

  ┌ ──jGRASP exec: java KevinBaconDegrees
  Error reading file: list.txt (No such file or directory)
  Select Options:
  1. Calculate an actor's Bacon Number
  2. Add an entry to the list
  3. Delete an entry from the list
  4. Quit
▶▶ tom cruise
  Exception in thread "main" java.util.InputMismatchException
      at java.base/java.util.Scanner.throwFor(Scanner.java:947)
      at java.base/java.util.Scanner.next(Scanner.java:1602)
      at java.base/java.util.Scanner.nextInt(Scanner.java:2267)
      at java.base/java.util.Scanner.nextInt(Scanner.java:2221)
      at KevinBaconDegrees.run(KevinBaconDegrees.java:117)
      at KevinBaconDegrees.main(KevinBaconDegrees.java:156)

   ──jGRASP wedge: exit code for process is 1.
  └ ──jGRASP: operation complete.

     ──jGRASP exec: java KevinBaconDegrees
```

```
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
1
Enter actor's name:
tom cruise
tom cruise not found in the database.
tom cruise's Bacon Number is: -1
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
1
Enter actor's name:
Tom Cruise
Tom Cruise not found in the database.
Tom Cruise's Bacon Number is: -1
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
3
Enter actor's name:
Tom Cruise
Enter movie to delete:
Austin Powers
Entry not found: Tom Cruise, Austin Powers
Exception in thread "main" java.lang.NumberFormatException: For input string: "Jude,1940"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
    at java.base/java.lang.Integer.parseInt(Integer.java:662)
```

```
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
1
Enter actor's name:
Julia Roberts
Julia Roberts's Bacon Number is: 2
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
1
Enter actor's name:
Mark Wahlberg
Mark Wahlberg's Bacon Number is: 2
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
```

```
 ──jGRASP exec: java KevinBaconDegrees
Exception in thread "main" java.lang.NumberFormatException: For input string: "Jude,1940"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
    at java.base/java.lang.Integer.parseInt(Integer.java:662)
    at java.base/java.lang.Integer.parseInt(Integer.java:778)
    at KevinBaconDegrees.loadFromFile(KevinBaconDegrees.java:37)
    at KevinBaconDegrees.<init>(KevinBaconDegrees.java:17)
    at KevinBaconDegrees.main(KevinBaconDegrees.java:174)

 ──jGRASP wedge: exit code for process is 1.
 ──jGRASP: operation complete.

 ──jGRASP exec: java KevinBaconDegrees
Exception in thread "main" java.lang.NumberFormatException: For input string: "Jude,1940"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
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    at KevinBaconDegrees.loadFromFile(KevinBaconDegrees.java:37)
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 ──jGRASP wedge: exit code for process is 1.
 ──jGRASP: operation complete.

 ──jGRASP exec: java KevinBaconDegrees
Exception in thread "main" java.lang.NumberFormatException: For input string: "Jude,1940"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:67)
    at java.base/java.lang.Integer.parseInt(Integer.java:662)
    at java.base/java.lang.Integer.parseInt(Integer.java:778)
    at KevinBaconDegrees.loadFromFile(KevinBaconDegrees.java:37)
    at KevinBaconDegrees.<init>(KevinBaconDegrees.java:17)
    at KevinBaconDegrees.main(KevinBaconDegrees.java:174)

 ──jGRASP wedge: exit code for process is 1.
 ──jGRASP: operation complete.
```

```
1
Enter actor's name:
Tom Cruise
Tom Cruise's Bacon Number is: 2
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
```

```
2
Enter actor's name:
Sam Lee
Enter movie:
People
Enter year:
2024
Entry added successfully: Sam Lee, People, 2024
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
4

 ──jGRASP: operation complete.

 ──jGRASP exec: java KevinBaconDegrees
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
3
Enter actor's name:
Sam Lee
Enter movie to delete:
People
Entry not found: Sam Lee, People
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
 ──jGRASP: process ended by user.
```

```
 ----jGRASP exec: java KevinBaconDegrees
Reading line: Adolf Hitler Der Ewige Jude 1940
Parts length: 6
Actor: Adolf, Movie: Hitler Der Ewige Jude, Year: 1940
Reading line: Angelina Jolie Mr. & Mrs. Smith 2005
Parts length: 7
Actor: Angelina, Movie: Jolie Mr. & Mrs. Smith, Year: 2005
Reading line: Anne Hathaway Valentine's Day 2010
Parts length: 5
Actor: Anne, Movie: Hathaway Valentine's Day, Year: 2010
Reading line: Benedict Cumberbatch The Hobbit: An unexpected Journey 2012
Parts length: 8
Actor: Benedict, Movie: Cumberbatch The Hobbit: An unexpected Journey, Ye
Reading line: Benedict Cumberbatch Black Mass 2015
Parts length: 5
Actor: Benedict, Movie: Cumberbatch Black Mass, Year: 2015
Reading line: Brad Pitt Mr. & Mrs. Smith 2005
Parts length: 7
Actor: Brad, Movie: Pitt Mr. & Mrs. Smith, Year: 2005
```

Messages | jGRASP Messages | Run I/O

```
      Enter actor's name:
  ►►  Hugh Jackman
      Enter movie to delete:
  ►►  X Men First Class
      Trying to delete: Hugh Jackman, X Men First Class
      Comparing with: Adolf, Hitler
      Comparing with: Angelina, Jolie
      Comparing with: Anne, Hathaway
      Comparing with: Benedict, Cumberbatch
      Comparing with: Benedict, Cumberbatch
      Comparing with: Brad, Pitt
      Comparing with: Brad, Pitt
      Comparing with: Brad, Pitt
      Comparing with: Brad, Pitt
      Comparing with: Brad, Pitt
      Comparing with: Christian, Bale
      Comparing with: Curt, Bois
      Comparing with: Curt, Bois
      Comparing with: Denzel, Washington
      Comparing with: Denzel, Washington
      Comparing with: David, Struffolino
      Comparing with: David, Struffolino
      Comparing with: Hugh, Jackman
      Comparing with: Hugh, Jackman
      Comparing with: Ian, McKellen
      Comparing with: Julia, Roberts
      Comparing with: Julia, Roberts
      Comparing with: Kate, Winslet
      Comparing with: Kenneth, Tobey
      Comparing with: Kenneth, Tobey
      Comparing with: Kevin, Bacon
      Comparing with: Kevin, Bacon
      Comparing with: Kevin, Bacon
      Comparing with: Kevin, Bacon
      Comparing with: Kevin, Bacon
```

```
Curt Bois The Great Sinner Valentine's Day
Denzel Washington 2 Guns Valentine's Day
Denzel Washington The Equalizer Valentine's Day
David Struffolino The Equalizer Valentine's Day
David Struffolino Knight and Day Valentine's Day
Hugh Jackman Flushed Away Valentine's Day
Hugh Jackman X Men First Class Valentine's Day
Ian McKellen The Hobbit: An unexpected Journey Valentine's Day
Julia Roberts Valentine's Day Valentine's Day
Julia Roberts Flatliners Valentine's Day
Kate Winslet Flushed Away Valentine's Day
Kenneth Tobey The Great Sinner Valentine's Day
Kenneth Tobey Hero at Large Valentine's Day
Kevin Bacon Sleepers Valentine's Day
Kevin Bacon Beyond All Boundaries Valentine's Day
Kevin Bacon Flatliners Valentine's Day
Kevin Bacon Patriots Day Valentine's Day
Kevin Bacon Black Mass Valentine's Day
Kevin Bacon X Men First Class Valentine's Day
Kevin Bacon Hero at Large Valentine's Day
Kevin Spacey Se7en Valentine's Day
Kevin Spacey Patriots Day Valentine's Day
Kevin Spacey Austin Powers in Goldmember Valentine's Day
```

TEST RUNS:

```
 ----jGRASP exec: java KevinBaconDegreesSharmaKim
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
1
Enter actor's name:
Tom Cruise
Tom Cruise's Bacon Number is: 2
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
4

 ----jGRASP: operation complete.
```

```
    ————jGRASP exec: java KevinBaconDegreesSharmaKim
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
2
Enter actor's name:
Avi Sharma
Enter movie:
Transformers
Enter year:
2024
Entry added successfully: Avi Sharma, Transformers, 2024
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
1
Enter actor's name:
Avi Sharma
Avi Sharma's Bacon Number is: 2
```

```
 ----jGRASP exec: java KevinBaconDegreesSharmaKim
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
2
Enter actor's name:
Avi Sharma
Enter movie:
Life of Pi
Enter year:
2012
Entry added successfully: Avi Sharma, Life of Pi, 2012
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
3
Enter actor's name:
Avi Sharma
Enter movie to delete:
Life of Pi
Entry deleted successfully: Avi Sharma, Life of Pi
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
1
Enter actor's name:
Angelina Jolie
Angelina Jolie's Bacon Number is: 2
Select Options:
1. Calculate an actor's Bacon Number
2. Add an entry to the list
3. Delete an entry from the list
4. Quit
4

 ----jGRASP: operation complete.
```

```
    ----jGRASP exec: java KevinBaconDegreesSharmaKim
   Select Options:
   1. Calculate an actor's Bacon Number
   2. Add an entry to the list
   3. Delete an entry from the list
   4. Quit
►► 2
   Enter actor's name:
►► Joshua Kim
   Enter movie:
►► Transformers
   Enter year:
►► 2024
   Entry added successfully: Joshua Kim, Transformers, 2024
   Select Options:
   1. Calculate an actor's Bacon Number
   2. Add an entry to the list
   3. Delete an entry from the list
   4. Quit
►► 3
   Enter actor's name:
►► Joshua Kim
   Enter movie to delete:
►► Transformers
   Entry deleted successfully: Joshua Kim, Transformers
   Select Options:
   1. Calculate an actor's Bacon Number
   2. Add an entry to the list
   3. Delete an entry from the list
   4. Quit
►►
    ----jGRASP: process ended by user.


    ----jGRASP exec: java KevinBaconDegreesSharmaKim
   Select Options:
   1. Calculate an actor's Bacon Number
   2. Add an entry to the list
   3. Delete an entry from the list
   4. Quit
►► 3
   Enter actor's name:
►► Mel Gibson
   Enter movie to delete:
►► Braveheart
   Entry not found: Mel Gibson, Braveheart
   Select Options:
   1. Calculate an actor's Bacon Number
   2. Add an entry to the list
   3. Delete an entry from the list
   4. Quit
►►
```