

## ITSE 2417- Fall 2016

### Program Set #6

See Java Grading /Program Guide Sheet for directions and grading/submission information.

1. Implement Programming Exercise #10- Chapter 28 (Liang) p. 1056. Let the user input the file name from the keyboard, otherwise, the output should look similar to text.

Name the program: ShortPathXX.java, where XX are your initials.

2. Implement Programming Exercise #2- Chapter 32 (Liang) p. 1207. Use JDBC and Java FX. Use the SQL statement and Student table as mentioned in the text. Set the title to Department Charts. Output should look similar to text.

Name the program: StaffChartsJDBCXX.java, where XX are your initials.

3. Write a Java FX GUI application that shows a yo-yo moving up and down on a string. Each time you redraw the yo-yo, let it sleep for 100 milliseconds. Set the title to Yo Yo, and center the stage on the screen. Do not use the Timer class-use threads.

Name the program: YoYoXX.java, where XX are your initials.

4 (\*\*). The trivia game Six Degrees of Kevin Bacon is based on the number of friendship relations found on social networking sites. The game involves determining how many steps someone is from actually appearing in a movie with Kevin Bacon. The minimum number of steps is known as the person's Bacon Number, which can be defined more precisely as follows:

- Kevin Bacon himself has a Bacon number of zero.
- The Bacon number of any other actor is defined to be the minimum of the Bacon numbers of all others with whom the actor appeared in a movie produced by a major studio, plus one.

Almost every actor in Hollywood can be successfully linked to Kevin Bacon in 6 steps or fewer, hence the Six Degrees. The higher the Bacon number of an actor, the less connected they are to other actors. For example, the Bacon Number of Eddie Murphy is 2:

- Kevin Bacon (BN 0) appeared in *Footloose* with John Lithgow (BN 1)
- John Lithgow (BN 1) appeared in *Dreamgirls* with Eddie Murphy (BN 2)

Write a Java program to implement this game. Input will come from a text file given to you by your instructor which contains a list of actors and movies. Check for valid files. Prompt the user to enter the actor's name from the keyboard, one name per line to search for. Then, for each actor read in, print out their Kevin Bacon number and a shortest chain of movies that connect them to Kevin Bacon. If a name

is not in the file print "None-Bacon Number of Infinity". Input the file name from the keyboard. Output should look similar to below.

**Sample Run:**

Enter the name of the file: movies.txt

Welcome to the Six Degrees of Kevin Bacon.

Enter the actor's name: Brad Pitt

Path from Brad Pitt to Kevin Bacon:

Brad Pitt was in Ocean's Eleven (2001) with Julia Roberts  
Julia Roberts was in Flatliners (1990) with Kevin Bacon

Brad Pitt's Bacon number is 2

Name the program: BaconNumberXX.java, where XX are your initials.