

2015-16 Intersession Comp Prob Solving Lab E - Six Degrees of Kevin Bacon Problem Solving Worksheet

Name: _____

You will work *individually* to complete the following activities.

1 Data Structure

1.1 Design (2 pts)

Consider what the data structure should look like to solve this problem. What general type of structure, and what details are kept where?

1.2 Example (2 pts)

For the input data given below, draw a visual representation of your data structure, complete with all relevant information (i.e. movie titles and actor names).

Apollo13 Kevin Bacon Tom Hanks Gary Sinise

HollowMan Elisabeth Shue Kevin Bacon Josh Brolin

AFewGoodMen Tom Cruise Demi Moore Jack Nicholson Kevin Bacon

OneCrazySummer John Cusack Demi Moore

DaVinciCode Tom Hanks Ian McKellen Audrey Tautou

2 Logic

2.1 Graph Creation (3 pts)

How will you create and populate the data structure from the input file? Write pseudocode for your algorithm.

2.2 Searching (3 pts)

How will you generate the chain of links between two actors? Write pseudocode for your algorithm.

- Keep in mind that you can create chains of maximum length three, even though longer chains may exist. Even if longer chains exist, simply report that no chain exists.
- You do not need to guarantee finding a shortest chain as long as you can find one of three or fewer links.