Homework 7

Modify your graph to use generics

- Will have to update HW #5 and HW #6 tests

Implement Dijkstra's algorithm

- Search algorithm that accounts for edge weights
- Note: This should not change your implementation of Graph. Dijkstra's is performed on a Graph, not within a Graph.

Homework 7

The more well-connected two characters are, the lower the weight and the more likely that a path is taken through them

- The weight of an edge is equal to the inverse of how many comic books the two characters share
- Ex: If Amazing Amoeba and Zany Zebra appeared in 5 comic books together, the weight of their edge would be 1/5

Hw7 Important Notes!!!

DO NOT access data from hw6/src/data

- Copy over data files from hw6/src/data into hw7/src/data, and access data in hw7 from there instead
- Remember to do this! Or tests will fail when grading.

DO NOT modify ScriptFileTests.java

Hw7 Test script Command Notes

HW7 ***LoadGraph*** command is slightly different from HW6

- After graph is loaded, there should be at most one directed edge from one node to another, with the edge label being the multiplicative inverse of the number of books shared
- Example: If 8 books are shared between two nodes, the edge label will be 1/8
- Since the edge relationship is symmetric, there would be another edge going the other direction with the same edge label

Graph Activity

List the Characters set, the Books->Characters map, and draw the graph using these characters and “books”.

Harry HP1

Harry HP2

Harry HP3

Harry HP4

Quirrel HP1

Scabbers HP1

Scabbers HP2

Voldemort HP4

Voldemort SharedAHead

Quirrel SharedAHead

Graph Activity Answers

Characters

Harry, Quirrel, Scabbers

Books -> Characters

HP1 -> Harry, Quirrel, Scabbers

HP2 -> Harry, Scabbers,

HP3 -> Harry

HP4 -> Harry, Voldemort

SharedAHead -> Voldemort, Quirrel

Graph Activity Answers