AVL Trees

HomeWork # 3

By

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***“On my honor, as a Mississippi State University student, I have neither***

***given nor received unauthorized assistance on this academic work.”***

Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Data Structures

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**Analysis and Conclusions**

The homework was a very interesting choice of topic to help us understand graphs. Getting the graph set up into a adj. matrix wasn’t to hard. I set up the program all in main before I set it up in a class. To help with the data I put the names in numerical order corresponding with their ID number. This helped me run the program and populate my graph a lot better. I used if statements in my main to determine which graph each line would go to. I used to file opener that we went over in class to open my files. I also printed the list of names in order to show that it is working as well as printed who fought and teamed up the most. To figure this out I used a function to get the maximum value in the adjacency list and used to row and column number to determine which characters were at that spot. I could not figure out the prims algorithm and will attempt to get it figured out but I am submitting the code now incase by the time I figure it out ill have lost more points from it being late.

Analysis Questions

1. I did not end up using a algorithm yet, although I plan to research more.
2. I used a adjacency matrix because I felt like it was easier to manage and to get the answers to the questions I needed. It is more easily searched through to get the answers we needed in our functions. Its very easy to just use nested loops to go through the graph, and with my names already in order it is easy to determine who is who.
3. Thor and loki fought the most
4. Iron man and nick fury teamed up the most.

Source Code:

Attached in submission.

