

Program 3

CSCI232

Due 12/2/19

Purpose: To use real life data to produce an undirected graph of connections

Using the graph code given to you and the classes input file you used in program 2, you will add to this graph code to determine the connections (edges) between classes due to the same professor teaching the classes.

Important step to make your life easier: remove all labs and recitations and have just one course (not multiple sections). I have put a modified classes_mod_pgm3.csv in the program 3 folder in github if you want to use that one.

You will determine the vertices and edges of your graph based on the professor teaching each course. You will use the undirected graph with adjacency lists to store your vertices/edges.

You will then print out the connections: (for example using my abbreviated version)

```
run:
8 vertices, 5 edges
CSCI112, Cummings also teaches  CSCI322 CSCI215
CSCI232, Lloyd also teaches  CSCI111
CSCI111, Lloyd also teaches  CSCI232
CSCI446, Sheppard teaches only this course
CSCI215, Cummings also teaches  CSCI322 CSCI112
CSCI322, Cummings also teaches  CSCI215 CSCI112
CSCI127, DeFrance also teaches  CSCI241
CSCI241, DeFrance also teaches  CSCI127

BUILD SUCCESSFUL (total time: 1 second)
```

Requirements:

1. You must use a separate class to store the information you read from the file.
2. You must use an (the) undirected graph data structure (class) to provide the connections.
3. You must print the class, professor (full name) “also teaches” <other classes> (You may have duplicates for example lines 1 and 4 above.).
4. You will print out those class, professors that are only teaching one class with separate words (as above).
5. You must print the number of vertices/edges in your graph.

Due: Friday,12/2/19 at 11:30pm. No late submissions will be accepted.

Each student will complete and submit this assignment individually.

You *may*

- Share ideas with other people.
- Help other people debug their programs.

You may *NOT*

- Share code with other people.
- Submit code that you did not write.
- Modify someone else's solution and claim it as your own.
- You may not submit screenshots that do not come from the code you submitted

Submission: You will submit the source files, and screen shot of output (in a zip file) to brightspace.

Rubric: (50 points)

1. –25 points – created a main to read in the information from the input file and store it
2. – 10 points – modified the graph data structure to determine edges based on data
3. – 15 points – output produces the connections based on the professor as in the example