Instructions for hw5-programming

A. IPython notebook

You should complete this assignment in an IPython Notebook, using Python 3.7 and NetworkX version 2.0+. If you installed the Anaconda distribution, as we recommended for the first programming assignment, you will have NetworkX version 2.3. You should install the module pulp, if needed (run “pip install pulp”).

B. The Assignment (80 points)

You should download the IPython notebook that appears on Canvas under Programming assignments/hw5p on your machine, as well as the two data files karate.gml and power.gml. Place all files in the same directory. You should launch the IPython notebook. You should read the problem statement and solve Problem 1 and Problem 2 on the notebook, as instructed on the assignment. The assignment contains clear instructions on what you need to fill in.

IMPORTANT: Do NOT change any function names or delete any cells or add code outside the functions you are asked to fill in.

D. Your submission

Once you have completed the assignment, you should save your notebook as hw5psolution.ipynb and then do the following.

1. Open a Terminal in Mac OSX or Linux and run the following commands in order. Replace <myUNI> below with **your UNI**.
    - cd
    - ls // *should list* hw5psolution.ipynb *as one of the files in the directory*
    - mkdir <myUNI_hw5>
    - cp hw5psolution.ipynb <myUNI_hw5>/
    - tar -czvf <myUNI_hw5.tgz> <myUNI_hw5>/
2. You should now have the file <myUNI_hw5>.tgz in your home directory. Upload this file on Canvas (under Assignments, hw5p).
    - For example, if your UNI is ab1234, you should upload the file ab1234_hw5.tgz after running the following commands:
        - cd
        - ls //*should list* hw5psolution.ipynb *as one of the files in the directory*
        - mkdir ab1234_hw5
        - cp hw5psolution.ipynb ab1234_hw5/

    - tar -czvf ab1234_hw5.tgz ab1234_hw5/

Note that your submission should **not** contain the data files or the info file.

Windows users: If you create a tar.gz file (e.g., using 7zip), simply rename it to tgz and submit the resulting file. Alternatively, the commands above should work essentially as they are in a windows command prompt (just replace **cp** by **copy** and **don't use slashes after directory name),** or you can use **Windows PowerShell.**

D. Grading

Please follow the instructions below carefully.

- **You should not change any code we give. You may not import any new libraries.** You should be able to solve this assignment using basic Python and NetworkX functions.
- You should double check that your **file name is correct**.

Please see below for a list of common mistakes and how they will be penalized. **Penalties due to the following errors are non-negotiable.**

1. Incorrect filename: -30 points
2. Use of additional packages/libraries: -30 points
3. Renaming of our functions: -40 points
4. Modifying the global process (e.g., adding code outside the functions, **introducing/using global variables**): -40 points

Finally, we will use software to detect similarity among submissions. As usual, you may brainstorm with a small number of your classmates but you should write up your code **entirely on your own** to avoid receiving a 0 in this assignment (and possibly further disciplinary actions).