

# Instructions for hw1-programming

## A. Installing IPython

You should complete this assignment in an IPython Notebook, using Python 3.7. You first need to install Python on your machine, if not already available. We recommend the Anaconda distribution:

1. Download the anaconda distribution from <https://www.anaconda.com/download> . Anaconda includes and conveniently installs Python, the Jupyter Notebook, and other commonly used packages for scientific computing and data science.
2. Once installed, you can launch the IPython-notebook by running `jupyter notebook` or `IPython notebook` on the Terminal. This will open the IPython notebook on a browser.
3. You can now open an existing notebook by browsing through the file system on the browser page, or create a new notebook from the menu on the top-right.

Please familiarize yourselves with this environment as soon as possible.

## B. The Assignment

You should download the IPython notebook that appears on Canvas under Programming assignments/hw1p on your machine, and launch it. 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.**

## C. Your submission

Once you have completed the assignment, you should save your notebook as `hw1psolution.ipynb` and then do the following.

1. Place the file `hw1psolution.ipynb` in your home directory.
2. Open a Terminal in Mac OSX or Linux and run the following commands in order. Replace `<myUNI>` below with **your UNI**.
  - o `cd`
  - o `ls` // should list `hw1psolution.ipynb` as one of the files in the directory
  - o `mkdir <myUNI_hw1>`
  - o `cp hw1psolution.ipynb <myUNI_hws1>/`
  - o `tar -czvf <myUNI_hw1.tgz> <myUNI_hw1>/`
3. You should now have the file `<myUNI_hw1>.tgz` in your home directory. Upload this file on Canvas (under Assignments, hw1p).

- For example, if your UNI is ab1234, you should upload the file ab1234\_hw1.tgz after running the following commands:
  - `cd`
  - `ls` //should list hw1psolution.ipynb as one of the files in the directory
  - `mkdir ab1234_hw1`
  - `cp hw1psolution.ipynb ab1234_hw1/`
  - `tar -czvf ab1234_hw1.tgz ab1234_hw1/`

## D. Grading

Please follow the instructions below carefully.

- **You should not change any code we give, or include any extra packages.**
- You should double check that the **format** (and the order) of your outputs match our examples.
- You should double check that your **file name is correct**.

You will receive 60 points if your code succeeds in our 3 test cases, and another 40 points if it succeeds in our hidden test cases.

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: -30 points
3. Renaming of our functions: -40 points
4. Modifying the global process (e.g., adding code outside the functions, introducing global variables): -40 points
5. Modifying the graph (deleting nodes/edges): -30 points
6. Implementing BFS instead of DFS: -50 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).