

Open Spyder. [windows button, Anaconda2, Spyder]

Go to <https://www.edmodo.com/home#/group?id=25708867> for everything you'll need.

`Toy_data.npy` is a compressed file with (FAKE) data from air quality facilities around Pittsburgh over several years. It contains concentrations (Molar) of several oxides. It also contains 2D coordinates of the locations of the sites from which data was collected.

You are tasked with translating this data into a meaningful format for a presentation to the water authorities of Pittsburgh.

These instructions will be directed towards use with Python 3.6 and the libraries numpy and matplotlib, but you are free to use whatever tools you choose (just know I can only offer limited help). This packet contains the general instructions and the second gets much more specific.

Your BEST FRIENDS will be stackexchange.com and the documentation for matplotlib, numpy. Other useful sites include pythontutor.org and ME! Come at me, y'all.

1. The data was originally formatted as a numpy array of shape (5,6,100), where dimension one is years (5), dimension 2 is data [4 data points and 2 (x,y) coordinates] and dimension 3 is data points (100).
2. X-y coordinates are based on an origin at Point State Park. I've provided a map in the Edmodo files called "map.jpg/png". This point in map coordinates [correspond to pixels]: (215,295).
3. One step (integer) in data x-y coordinates represents 1/8 km.
4. The distance between Duquesne Bridge and Roberto Clemente Bridge is 0.5 km (100 pixels).
5. Data was collected such that transformations/rotations are not necessary.
6. Good luck!

Examples of my best ideas are in the directory you have access to on Edmodo.com. I'd recommend you don't look at them unless you're totally lost—it's way more fun to solve these problems on your own.