Intermediate Programming with Python   **Group Project**
This is a <u>group</u> assignment (4-5 students per group)

The group project requires that you develop a Python application using data sources from at least three web sources. Your sources *must* include
> (1) using a site's API to retrieve structured data (like JSON or XML),
> (2) web scraping (for data stored in tables), and
> (3) downloading CSV or other data files.

The purpose of the application is up to you, but it must have a clear objective – a standalone app as a proof-of-concept for a "real" application, a program to support some business goals (which you will have to make up), or help a non-profit or government agency, or something that would help students in your major. Of course, the application must be coded in Python and should illustrate topics covered in the course. But it should not be limited to what we covered in class – you are encouraged to find and use third-party libraries if they help you accomplish your goals. Beware of trying to web scrape data from commercial web sites: most companies do *not* want to freely give away their data (which they probable the ~~stole~~ acquired from their customers).

Deliverables (40% of the course grade)

1. (5 points, out of 100) Group formation: each group should have 3-4 students. Because the numbers may not work out exactly, and because not everyone knows other people in class, please consider taking in singletons. If you have trouble forming or joining a group, let me know as soon as possible. You need to form your group and let me know its composition (including email addresses) and the cool team name you chose via email by ***noon, Tuesday, November 17***

2. (10 points) Draft plan: your basic concept, the overall objective, the basic use cases, and tentative sources of data. In addition, include a plan of work: which teammates are responsible for which parts. There's no formal template for this, but the doc should be a pdf. Due on Canvas by ***noon 11:59 am, Sunday, November 22***. I will review your plan and possibly ask for changes.

3. (25 points) Presentation: a 10 minute (maximum) presentation of your project. Likely, this will be a Powerpoint presentation and a demo of your application, delivered via Zoom. Be sure to highlight what Python features and libraries used in your project, in addition to your three data sources. Delivered: ***During the final exam period (TBA), in class.***

4. Source code (40 points), documentation (10 points), user instructions (5 points), abstract (5 points). The documentation does not need to be extensive; at minimum, describe every function and every major piece of functionality with a comment. The user instructions will likely be very brief, too. The abstract is a one-paragraph description; it should be something that you could put in your resume, so it should mention what cool Python stuff you used. Due ***Friday, December 18, 4:00 PM EDT***.