Homework 1

Instructions

For this homework you will create a python notebook (`.ipynb` file) using Google Colab and submit a link to your notebook. This can be done by clicking on the 'share' icon in the top right. No edits should be made after the due date!

Purpose

The purpose of this homework is to get some basic practice running python code in a notebook. **Note that most homework assignments in this course will have a part that pushes you beyond what was in the lectures!** Learning to search for the right questions and browsing stackoverflow are really life skills that we should honed :) We are definitely here to help and support you with this (especially early in the semester).

Creating a Notebook and Using Markdown

We aren't really ready to do a ton of coding but we can do a little coding, make sure we can work through the Notebook interface, and utilize the markdown syntax. Your task is to do two things:

1. Recreate the outputted HTML file in the assignment link using Google Colab (the text is pulled from the module's web sites but has been shortened and edited to include some extra formatting)

2. Add an additional part to the notebook corresponding to the instructions in the next section.

Some notes to help you out:

- No need to retype everything, copy from the provided HTML document and then just update the text with formatting as needed.
- I'm not super worried about a first level vs second level header on these types of things, or that the spacing is exactly the same. I just want to see that you can use the syntax and formatting, I'm not concerned that it matches **exactly**.
- All occurrences of `NumPy` are formatted as code font
- *ndarray* is italicized
- The code from C that won't run correctly is in a markdown cell with three back ticks above and below it
- The image is available in the assignment link. This can be a bit tough to add to the notebook. I found this stackoverflow post that gave me the pieces for getting it done - although the instructions they have don't work exactly.

Instructions for Additional Part

We talked briefly about lists. Let's create a list and do a few things to it. As we need to get used to looking at documentation from time to time, see https://docs.python.org/3/library/stdtypes.html?highlight=list#list. In particular, note that in that section it says: "Lists implement all of the common and mutable sequence operations." and there are links on the words common and mutable. The answers to what we want to do exist there!

Place the code below in a code cell to create a list we'll mess around with.

```python
listy = [x for x in range(1,21)]
listy
```

```
## [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
```

Now we want to do the following:

- In a code cell,
  - Use a **method** to remove the number 10 from the list
  - Have your new list display its values

- In another code cell,
  - Use a **method** to insert the string "threeve" to the beginning of the list (note that the first position is the 0th index of the list)
  - Have your new list display its values

- In another code cell,
  - Use augmented assignment to repeat the modified `listy` three times
  - Have your new list display its values

Write a markdown cell prior to each code cell with a brief description of what you are doing.

Submission

Now you can grab the 'share' link and submit that! Good luck and let us know if you run into issues.