# DS 122
# Notes on Python

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In this course you will use `python` to complete assignments that require coding. `Python` is an exceptionally versatile language and it is a natural one for discussion of algorithms related to linear algebra.

This document contains notes that relate to the use of `python` in this course. You should read it and understand it fully before starting the homework that requires `python` coding.

**Learning Python.** If you have used `python` before, you can skip this section. You will need to know the basics of `python` to complete the homeworks in this course. Luckily, it does not take very long to master the basics. There are many ways to get up to speed, but some that I recommend are:

- Run through the first part of the Python tutorial at `codeacademy.com`. This is at `http://www.codecademy.com/en/tracks/python`. You only need to complete up to and including the "loops" lesson. This should only take a few hours.
- Run through the first part of the Python tutorial at `http://www.learnpython.org/`. You only need to complete up to the "Functions" lesson.
- Check Youtube if that's what works best for you. There are lots of tutorials there too.

**Installing Python.** We will use python version 3. If you are installing it for the first time on your machine, please install Anaconda: `https://www.anaconda.com`. Be sure to install the Python 3 version. If you don't use Anaconda, you need to make sure your python installation has all the needed packages (`numpy`, etc) and there is a lot of potential for problems. So best to use Anaconda.

**Using Python.** There is an IDE called "Spyder" that is installed by Anaconda. You may find this the most convenient programming environment, but you are free to use any IDE you like.

Personally do not use an IDE, but rather do almost all my work in Jupyter notebooks. These are a web-based system for maintaining notes, graphics, and python code all together. All the lecture slides are prepared as Jupyter notebooks, so you can look at them to get started.