

Sven's Python class, Fall 2020

1st

assignment (separate from the weekly programming

exercises). This assignment is due in 2 parts (by class time Tues, Nov 10th and Tues, Nov 17th)

Project Description:

This project will be your first effort to apply Python to something you are working on in your studio or research projects. Identify an area of your work where you believe using Python might be applicable or helpful. Curb your ambitions- this doesn't have to be a super big project. Do some research on the Internet and identify at least two projects where people have used Python to solve similar problems. These should be examples that you understand how the Python was used and can explain it (i.e.—what was the goal of the example code, what Python libraries were used, how id the code work).

Deliverables:

1. Write a brief (1-2 page) report detailing what the aim of your project is, and describe (and cite) the Python examples you found that are related.

This part of the assignment is due next week, November 10th, by class time. Please submit it as a PDF to Canvas.

2. Create the pseudocode for your program. Pseudocode is the plain language description of your program, written so anyone can understand what you are trying to get the program to do. More about pseudocode can be found here: <https://en.wikipedia.org/wiki/Pseudocode> and here: <https://www.geeksforgeeks.org/how-to-write-a-pseudo-code/#:~:text=Pseudo%20code%20is%20a%20term,up%20representatio>

[n%20of%20an%20algorithm](#). Usually when writing pseudocode you should start with a sentence or two describing the goal of your program, such as: "This program will help determine the lengths of windchime pipes when the user enters the longest pipe length". Then write out in English-- step by step-- what will happen in the program. Keep it very simple and direct. Use control structures, variables, and naming conventions. Create a new Github repository for the project. Save the pseudocode for the project as the README.

3. Using Jupyter Notebook, write your program in Python without functions and debug it (meaning test it and make sure it works). Upload it to your GitHub repository
4. Write a second version of your program creating and calling at least one function. Test it. Upload it to your GitHub repository.

Parts 2-4 of this assignment is due November 17th, by class time. Please submit as a URL (to your GitHub repository) to Canvas.