CNRI HW 4

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CNRI Week 4 Homework

1. Review lecture_4.ipynb and Python_Lecture_4_Notes.pdf as needed

2. Meet with your Python project group and create your basic experiment loop. This should at minimum have a for loop and the names & templates of at least two functions. You do not have to have these functions fully coded! Just create good, descriptive names for them, and plan out what their inputs & outputs should be. Please write this loop in a .py file. **This is due by class on 10/19!** when you finish, email it to raphael.geddert@duke.edu and miles.martinez@duke.edu, or send it over the CNRI-Interns slack channel in a private message, by classtime of week 6

3. Read the following code blocks & explanations, and in the text editor of your choice, answer the following questions & write the output of any given code:

   (a) Read the documentation for the function at this link. We can import this library in our code using:

   ```
   import random as r
   ```

   Once we've **imported random as r**, how would we generate a random number using functions in r?

4. Practice functions, classes & libraries in your favorite python editor with the following:

   - Create a function that takes a list as its only argument, shuffles the list twice, then returns the shuffled list. Use the random library for this!
   - In your experiments, we generally have multiple trial types. When we run our experiments, we want a certain ratio of different trial types, so we generate our desired trial ratios, then shuffle our list of trial types. Create a list of 10 integers, with 7 ones and 3 twos. Shuffle that list using the function you just created. Then, create a deep copy of that list, and shuffle the copy of the list.

5. Email raphael.geddert@duke.edu and miles.martinez@duke.edu a screenshot of steps 3 & 4, or send it over the CNRI-Interns slack channel in a private message. **Parts 3 and 4 are due by week 5's class, 10/12!!**