PRE-WORK: DATA SCIENCE

GETTING STARTED WITH DATA SCIENCE

Congratulations on joining us at General Assembly for the Data Science course! We are excited to have you and are looking forward to working with you all soon!

In order to best prepare and ensure success in the course, we've gathered a list of resources to guide your Python study, and a self-assessment so you can be confident that you're ready to start class on day one. Take a look!

PYTHON RESOURCES

Below are links to recommended resources that past Data Science students have found helpful when learning Python. There is no single "best" resource; instead, you should try out a few and then focus on the one that teaches Python in a way that you understand.

If you're not sure where to start, try out Codecademy and DataQuest first!

- Codecademy's Python course: Good beginner material, including tons of in-browser exercises.
- DataQuest: Uses interactive exercises to teach Python in the context of data science.
- Google's Python Class: Slightly more advanced, and includes hours of useful lecture videos and downloadable exercises (with solutions).
- Introduction to Python: A series of IPython notebooks that do a great job explaining core Python concepts and data structures.
- Python for Informatics: A very beginner-oriented book, with associated slides and videos.
- A Crash Course in Python for Scientists: Read through the Overview section for a very quick introduction to Python.
- Python 2.7 Quick Reference: A beginner-oriented guide that demonstrates Python concepts through short, well-commented examples.
- Python Tutor: Allows you to visualize the execution of Python code.

SELF ASSESSMENT

To get you prepared for class, we've created a quick self-assessment quiz. Once you have completed the self-assessment, send your results to Chelsea Baum in order to receive the answer key.

If you're able to answer most of these questions without a struggle, you should be in good shape for class. Be sure to study up on any of the questions you didn't understand! The answer key includes guidance on what Python topics to explore in order to better understand the answers.

If you found this to be extremely difficult, you will need to dedicate additional time to your Python practice in order to be ready for the first day of class. Take another look at the list of resources above and revisit this assessment when you feel more prepared. Make sure that you understand *why* each answer is correct. If you don't know the answer to a question, spend some time researching before responding.

This assessment covers many of the most common elements of Python you'll need early on in the course, but is not comprehensive. Don't study exclusively to these fifteen questions, but rather start with one of the resources above and aim to really understand these fundamentals.

[Assessment begins on next page. Submit your answers HERE and receive the answer key upon completion.]

PRE-WORK: DATA SCIENCE

SELF ASSESSMENT

1. How do you create an empty list named "mylist"?
2. What will the following code return? `5 > 3 or 5 < 3`
3. What will be stored in the "nums" object? `nums = range(10)`
4. How do you check the type and the length of the "nums" object?
5. How do you return the last number in the "nums" object?
6. Slice the "nums" object to return a list with the numbers 2, 3, 4.
7. What is the difference between `nums.append(10)` and `nums + [10]`?
8. How do you divide 3 by 2 and get a result of 1.5?
9. Import the "math" module, and then use its "sqrt" function to calculate the square root of 1089.
10. What type of object is created by this code? `d = {'a':10, 'b':20, 'c':30}`
11. In the "d" object, what are "a", "b", and "c" called? What are 10, 20, and 30 called?
12. How do you return the 10 from the "d" object?
13. How do you change the 30 to a 40 in the "d" object?
14. From the "people" object, return Brandon's state only: `people = {'Alice': ['Washington', 'DC'], 'Brandon': ['Arlington', 'VA']}`
15. Define a function "calc" that takes two variables, "a" and "b", and returns their sum.

Submit your answers HERE to receive the answer key.