EEB 174 Homework week 6

Feb 16, 2017

Preliminaries

Create a new ipython notebook called week-6-hw-eeb174.ipynb and save your answers in this notebook. Commit the notebook to your homework repo.

Commit all of your work as you go.

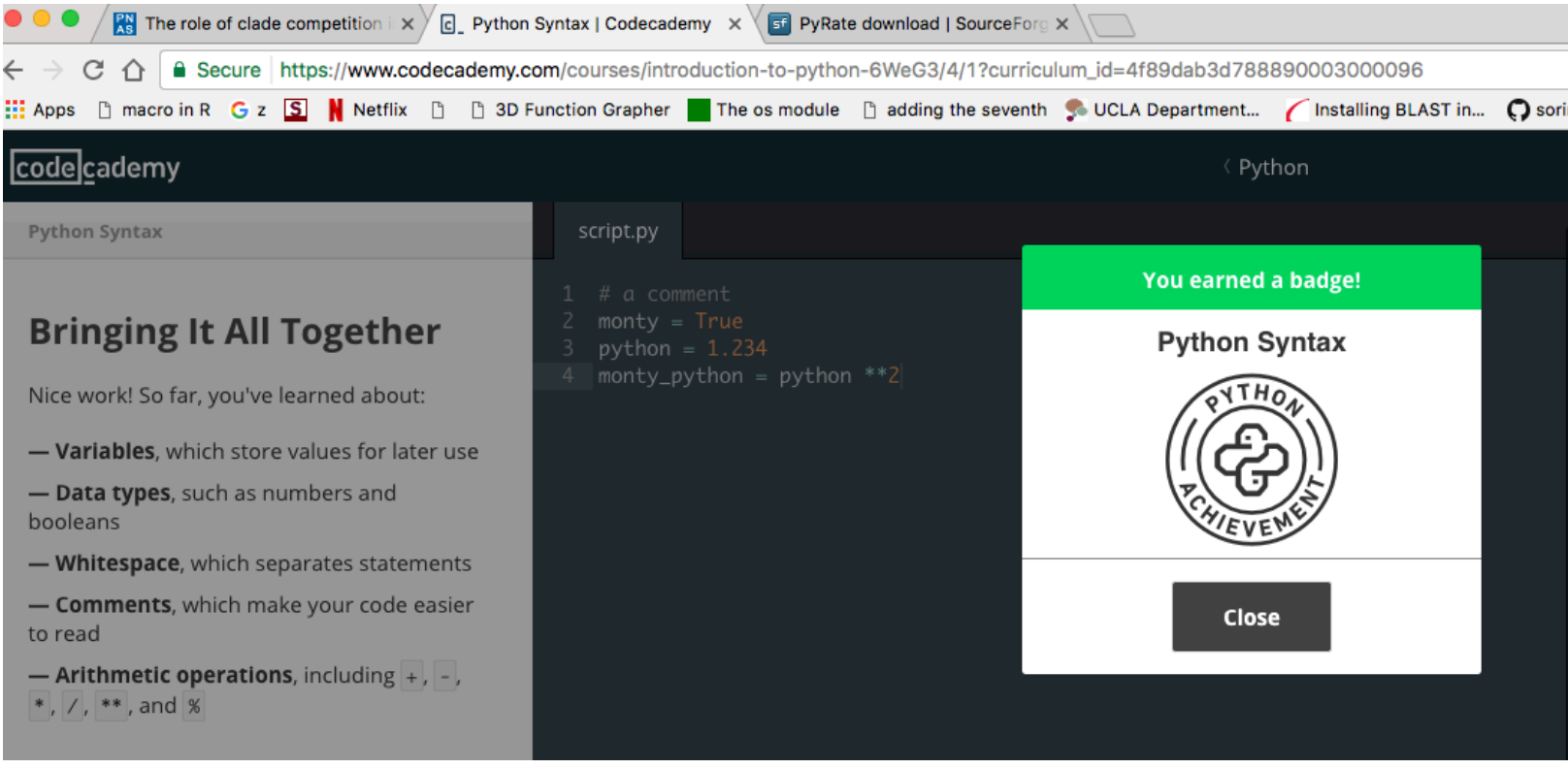
Part 1: Code Academy Review

You are going to work through a series of exercise hosted at https://www.codecademy.com/learn/python. After you complete a set of exercises you will be awarded a badge. **TAKE A SCREENSHOT OF THE FOLLOWING BADGES Or QUIZZES** as you complete them and place them as images within your ipython notebook.

- Python syntax
- String and console output
- Conditionals and Control flow
- Functions
- Python Lists and Dictionaries
- Lists and functions
- Loops
- Practice makes perfect

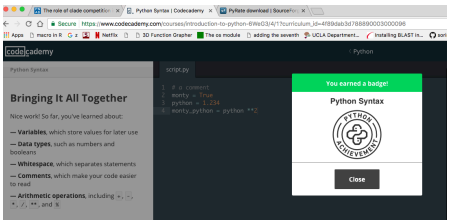
Note that you can place your images in the markdown cells within ipython by supplying the path to your image as you learned last week.

```
![badge1](/Users/michael_alfaro/Dropbox/Screen Shot 2017-02-16 at 11.42.36 AM.png)
```



or you can use a bit of html like below (this has the advantage of controlling the size of the image with the **width** argument).

```
<img src=https://www.dropbox.com/s/5wvk22fwdgqdaf3/Screen%20Shot%202017-02-16%20at%2011.42.36%20AM.png?dl=1 alt="Drawing" style="width: 300px;"/>
```



Part I Due Date is Tuesday, February 21st by 9:00 AM!!!

On Tuesday Gaurav will lead you through in-class exercises that will depend on your knowledge of basic operations in python. We have covered all of these topics in class already but he CodeAcademy format will give you the opportunity to practice your skills and get immediate feedback on your commands.

Part II. Python for Biologists

Read Chapter 8 of Python for Biologists and do the exercise on page 194. Before you start working through the solution, **write out psuedocode** that describes each of the steps that you would take to translate a sequence of DNA. Include that pseudocode as a markdown cell in your hw notebook.

Part III. Allesina and Wilmes

Read Chapter 4 of Allesina and Wilmes (pages 89-97 of thie pdf file: AllesinaWilmesCSfB_March16.pdf (we don't yet have the updated version of this chapter).

1. Write the simulation program described in section 4.3.2 starting on page 93.
2. Do part 1 of question 4.9.1 using this data set
3. Bonus: do part 2.
4. Bonus bonus: do part 3.

Due Dates

Part I is due **Tuesday, February 21st by 9:00 AM**

Parts II and III are due **Wednesday, February 22nd at 5:00 PM.**