Python and Command Line Review

Emily Josephs & Nancy Chen

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This is not a quiz! Please work through the questions. If you get stuck you can try actually running the scripts to see how they work.

Typeset conventions: All code or code-like text is written in `constant-width font`.

Unix

1. Briefly define what the following unix commands will do.

   - `cd /home/mydirectory`

   - `cd ..`

   - `cp`

   - `less`

   - `head`

2. How do you save a file in vim?

Data types

3. Data can be stored as integers, floats, strings, or lists. Write the data type of each variable listed below.

   - `'tomato'`
   - `56`

- 72.2

- ['apple','pear','plum']

- [1,2,3,4,5]

4. myFruit = ['apple','pear','plum']. What does myFruit[0] refer to?

5. What would the output of len(myFruit) be?

6. Write down the code would you use to add 'tomato' to the list myFruit.

If/Else and For Loops

7. Look at the following script:

```
myVeg = ['carrot','beet','bok choy']
if 'cabbage' in myVeg:
    print('yay I can make cole slaw!')
else:
    print('I need to go to the store')
```

What will be printed out if you run the script?

8. Look at the following script:

```
myVeg = ['carrot', 'beet', 'bok choy']
for veg in myVeg:
    print(myVeg[0])
```

What will be printed if you run the script?

9. Look at the following line:

```
myCodons = ["atg","tac","ttt","tcc"]
```

Write a short script that will tell you if the codon 'atg' is in the list `myCodons`

10. `codonTable['‘atg’']` will return the amino acid coded by the codon '`atg`'. Write a script that will print out the amino acids coded by the four codons in `myCodons`. You will likely need to use a `for` loop.

11. Open a new python file in vim and type the following code:

```
myRange = range(0,10)
print(myRange)
```

Write down what you think the `range` function does. What data type is the output?

Edit the script to print out all the numbers between 20 and 30.