Announcements

• No RQs until after Exam 2
• Assignment 6 due Thursday
• APT Quiz 2 due tonight
• APT 7 due today, APT 8 out
• Exam 2 is Nov. 16
• Lab this week!

• Today:
  – More practice with Dictionaries

Python shortcut you can ignore

• The zip function, tuples from two lists
• Does something right if lists have different sizes. Look it up

```python
together = zip(['dog', 'cat', 'fish', 'guava'], [3, 2, 1, 5])
[(‘dog’, 3), (‘cat’, 2), (‘fish’, 1), (‘guava’, 5)]
```
Python functions you CANNOT ignore

• We know how to sort, we call sorted
  – Example: sorting tuples
  – Function sorted returns a new list, original not changed

```
x = [('dog', 3), ('cat', 2), ('fish', 1), ('guava', 2)]
yy = sorted(xx)
```

[(‘cat’, 2), (‘dog’, 3), (‘fish’, 1), (‘guava’, 2)]

– What if sort by numbers instead of words?

Use what you know

• You can re-organize data to sort it as you’d like, list comprehensions are your friend

```
x = [('dog', 3), ('cat', 2), ('fish', 1), ('guava', 2)]
...nlist = [(t[1], t[0]) for t in xx]
```

[(3, ‘dog’), (2, ‘cat’), (1, ‘fish’), (2, ‘guava’)]

```
yy = sorted(nlist)
```

[(1, ‘fish’), (2, ‘cat’), (2, ‘guava’), (3, ‘dog’)]

APT – SortedFreqs

bit.ly/101f16-1108-1

The returned frequencies represent an alphabetic/lexicographic ordering of the unique words, so the first frequency is how many times the alphabetically first word occurs and the last frequency is the number of times the alphabetically last word occurs.

```
data = ["apple", "pear", "cherry", "apple", "cherry", "pear", "apple", "banana"]
```

Returns: [3, 1, 2, 2]
How do you convince someone that you know [a secret] without revealing the knowledge?

Work on what you like, what feels right, I know of no other way to end up doing creative work.
Dictionary problems – part 2

• Consider the Python dictionary below on schools that map schools to number of students

```python
d = {'duke':30, 'unc':50, 'ncsu':40, 'wfus':50, 'ecu': 80, 'meridith':30, 'clemson':80, 'gatech':50, 'uva':120, 'vtech':110}
```