

Activity 2-5

March 13, 2012

Task 1: Practice with Python Dictionaries

Download and save `ACT2-5.py`. Open it in IDLE and press F5. There are three variables that are assigned: `origString`, `freqDict`, and `phoneDict`.

Evaluate the Dictionaries

1. Evaluate `freqDict`.
What type are the keys?
What type are the values?
2. Evaluate `phoneDict`.
What type are the keys?
What type are the values?

Evaluate Individual Keys

1. The syntax for evaluating the key 'a' in the `freqDict` dictionary is `freqDict['a']`. Try this.
2. Evaluate the keys 'hat' and 'the' in the `freqDict` dictionary.
3. Evaluate the keys 'Carol' and 'Doug' in the `phoneDict` dictionary.

Test if a Key is in a Dictionary

1. Use the `has_key` function to determine if the string 'mat' is a key in `freqDict`.
2. Use the `<key> in <dict>` syntax to determine if the string 'Alice' is in `phoneDict`.

Get Lists of Keys and Values

1. Use the `keys` function to get a list of keys for `freqDict` and then for `phoneDict`.
2. Use the `values` function to get a list of keys for `freqDict` and then for `phoneDict`.
3. Suppose we want to print the keys and values in a dictionary. Why is the `keys` function more useful than the `values` function?

Manipulating Dictionaries

1. Add the key `'mat'` with the value `0` to `freqDict`. Verify your change by evaluating `freqDict`.
2. Remove the key `'cat'` from `freqDict`. Verify your change by evaluating `freqDict`.
3. Put the key `'Alice'` with the value `'401-555-5555'` in `phoneDict`. What happened to the dictionary? What does this mean about keys?

Dictionaries vs. Lists

1. Inspect the `printDict` function. How does it print the key-value pairs for a dictionary? Run `printDict` on `freqDict` and then `phoneDict`.
2. Now inspect the `printList` function. Since this function takes a list, use the `split` function to split `origString` on whitespace. Pass this list to the `printList` function.
3. Finally, run the `wordFreq` function. Think about how to modify this function to return a dictionary of word frequencies. If you have time, try to write the function.