KEY_Practice18_Dictionaries

January 11, 2020

1 Dictionaries

Now it's time to practice with dictionaries!

Let's start by making a dictionary of relatives in your family. Make a dictionary where the keys are a relation (ex. mom, dad, sister, brother, uncle, aunt, cousin, etc.), and the values are the people's name(s) who are related to you in that way:

```python
[37]: # make dictionary of relations
      family = {'mom':'carmen',
                'dad':'dan',
                'sister':'maya',
                'brother':'sam',
                'uncle':['russell','david'],
                'aunt':['helene','sharry','diana','debbie'],
                'cousin':
       ↪['zane','nico','hannah','alyssa','zach','kamilya','ismail','saidi']}

      # print out your dictionary
      print(family)
```

```
{'mom': 'carmen', 'dad': 'dan', 'sister': 'maya', 'brother': 'sam', 'uncle':
['russell', 'david'], 'aunt': ['helene', 'sharry', 'diana', 'debbie'], 'cousin':
['zane', 'nico', 'hannah', 'alyssa', 'zach', 'kamilya', 'ismail', 'saidi']}
```

Now access all your aunts:

```python
[38]: # access all aunts in dictionary
      family['aunt']
```

```
[38]: ['helene', 'sharry', 'diana', 'debbie']
```

What if you don't remember all of the keys in your dictionary? How can you print them all out?

```python
[39]: # print all keys in dictionary
      family.keys()
```

```
[39]: dict_keys(['mom', 'dad', 'sister', 'brother', 'uncle', 'aunt', 'cousin'])
```

Now you've decided that you want to add some of your closest friends to the list too. Add a key-value pair to your dictionary with some of your closest friends:

```python
[40]:  # add friends to dictionary
       family['friends'] = ['brooke','marlena','kelly']

       # print dictionary to see if it worked!

       family
```

```
[40]:  {'aunt': ['helene', 'sharry', 'diana', 'debbie'],
        'brother': 'sam',
        'cousin': ['zane',
         'nico',
         'hannah',
         'alyssa',
         'zach',
         'kamilya',
         'ismail',
         'saidi'],
        'dad': 'dan',
        'friends': ['brooke', 'marlena', 'kelly'],
        'mom': 'carmen',
        'sister': 'maya',
        'uncle': ['russell', 'david']}
```

See how friends isn't at the end of the dictionary? That's a friendly reminder that dictionaries are *unordered*.

Now let's loop through our dictionary and print out the name of the key and the length of the values (how many of that relation you have):

```python
[41]:  for k,v in family.items():
           print(k)
           print(len(v))
```

```
mom
6
dad
3
sister
4
brother
3
uncle
2
aunt
4
cousin
```

```
8
friends
3
```

Challenge: Let's add in a friend to our dictionary. How can we do that? (*Note:* We didn't learn this exact thing. Feel free to use Google if you need to!)

```
[42]:  # add friend to friends key-value pair
       family['friends'].append('stephanie')

       # print dictionary to see if it worked
       print(family)
```

```
{'mom': 'carmen', 'dad': 'dan', 'sister': 'maya', 'brother': 'sam', 'uncle':
['russell', 'david'], 'aunt': ['helene', 'sharry', 'diana', 'debbie'], 'cousin':
['zane', 'nico', 'hannah', 'alyssa', 'zach', 'kamilya', 'ismail', 'saidi'],
'friends': ['brooke', 'marlena', 'kelly', 'stephanie']}
```

Say we changed our mind and now we actually want our friends to be in a separate list. How could we do that using one line of Python code?

```
[43]:  # get friends out of dictionary
       friends = family.pop('friends')

       # print friends
       print(friends)
```

```
['brooke', 'marlena', 'kelly', 'stephanie']
```

Nice job! You're becoming an expert at accessing and manipulating keys and values in dictionaries.