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:

[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:

[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?

[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:

[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):

[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.