07- Dictionaries

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1 Dictionaries

A dictionary is like a list, however the indicies can be almost any type. You can think of it as a set of Key:Value, where key is the index and value is the element.

```
In [3]: # create a data structure of dictionary for the purpose of saving
        # english words with their spanish translation

        eng2sp = {} # initializae the dictionary
        # or
        # eng2sp = dict()

        print(eng2sp) #empty
```

```
{}
```

```
In [6]: # add an item

        eng2sp['one'] = 'uno' # the value is uno and the index is one
        print(eng2sp)
```

```
{'one': 'uno'}
```

```
In [8]: eng2sp = {'one':'uno', 'two':'dos', 'three':'tres'}
        print(eng2sp)
```

```
{'one': 'uno', 'two': 'dos', 'three': 'tres'}
```

```
In [9]: print(eng2sp['two'])
```

```
Out[9]: 'dos'
```

```
In [10]: # length of dict
         len(eng2sp)
```

```
Out[10]: 3
```

```
In [11]: # check if a key is in dict

         'one' in eng2sp
```

```
Out[11]: True
```

```
In [12]: # check if a value is in dict

         'uno' in eng2sp.values()
```

```
Out[12]: True
```

1.0.1 Write a funtion `freq()` that count how many times each letter appear in a given string. Use dictionary data structure.

```
In [14]: def freq(line):
             count_dict = {}
             for char in line:
                 if char not in count_dict:
                     count_dict[char] = 1
                 else:
                     count_dict[char] = count_dict[char] + 1
             return count_dict
```

```
In [15]: freq("mississippi")
```

```
Out[15]: {'i': 4, 'm': 1, 'p': 2, 's': 4}
```