Week 2 Quiz

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Instructions

Replace the Name and UNI in cell above and the notebook name

Replace all '__' below using the instructions provided.

When completed,

- make sure you've replaced Name and UNI in the first cell and filename (eg: Week_02_Quiz-brg2130)
- Kernel->Restart & Run All to run all cells in order
- use Print Preview, Print-> Save to pdf
- and post pdf to GradeScope

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1. Lists

```python
In [1]:   # Create a list containing the strings 'blue','red','green'
          colors = ['blue','red','green']

          # Assert that value at index 0 of the list colors is equal to 'blue'
          assert colors[0] == 'blue'

          # Using list indexing, print out the value of colors at index 1
          # You should see the output "red" without quotes
          print(colors[1])
```

```
red
```

2. Dicts

```
In [2]:   # Create a dictionary which maps the string keys 'zero','one','two'
          #     to the int values 0,1,2
          str_to_int = {'zero':0, 'one':1, 'two':2}

          # Assert that the value returned for key 'two' equals 2 in str_to_int
          assert str_to_int['two'] == 2

          # Using str_to_int, print out the value for the key 'one'
          # You should see the output 1
          print(str_to_int['one'])
```

```
1
```

3. String Formatting And For Loops

```
In [3]:   # Using the len function and f"" string formatting, print the number of eleme
          print(f"the length of colors is {len(colors)}")

          # Using the enumerate function, the colors list defined above, and f"" string
          #    for every index,value pair from enumerate(colors)
          #    print "the value at index {index} is {value}"
          #    Ex:
          #       the value at index 0 is blue
          #       the value at index 1 is red
          #       the value at index 2 is green
          for index,value in enumerate(colors):
              print(f"the value at index {index} is {value}")
```

```
the length of colors is 3
the value at index 0 is blue
the value at index 1 is red
the value at index 2 is green
```

4. List Comprehension

```
In [4]:   # Using a list comprehension and the len() function,
          #     create a list corresponding to the lengths of each of the strings in col
          # Store the resulting list in variable color_lengths
          color_lengths = [len(i) for i in colors]

          # Assert that the first value in color_lengths is 4 (the length of 'blue')
          assert color_lengths[0] == 4
```

5. Functions and Control Flow

```python
In [33]:   # Define a function called append_even_odd
           # It should expect to take in a string
           #     if the string is empty, return 'empty'
           #     else if the string has an even number of characters, return the string w
           #     else if the string has an odd number of characters, return the string wi
           # For example: 'blue' should become 'blue_even'
           def append_even_odd(string):
               """If the string is empty, return 'empty'
               else if the string has an even number of characters, return the string wi
               else if the string has an odd number of characters, return the string wit
            For example: 'blue' should become 'blue_even'"""
               if len(string)==0:
                   return(str('empty'))
               elif len(string)%2==0:
                   return(str(string+'_even'))
               else:
                   return(str(string+'_odd'))


           assert append_even_odd('test') == 'test_even'
           assert append_even_odd('one') == 'one_odd'
           assert append_even_odd('') == 'empty'
```

6. Sorting

```python
In [13]:   # Using sorted(), sort the list color_lengths created above, descending in va
           # Save as color_lengths_sorted
           color_lengths_sorted = sorted(color_lengths, reverse = True)

           # Assert that the last element of color_lengths_sorted is 3
           assert color_lengths_sorted[-1] == 3
```

For More Practice (not required):

```python
In [31]:   # Create a list of the key,value pairs in the str_to_int dictionary sorted by
           str_to_int_sorted = sorted(str_to_int.items(),key = lambda item:item[1], reve

           # assert that the first element of str_to_int_sorted is ('two',2)
           assert str_to_int_sorted[0] == ('two',2)
```