CSE 8A Programming Assignment 7

Name(s) (last, first): Barbour - Brown
PID(s): A17214152
Email(s): dbarbourbrown@ucsd.edu

Known Bugs or Issues:
If you have any known bugs or issues with your code, let us know here.
NA

Questions:

1. Explain when you would want to use a list vs a dictionary. Think of the similarities and differences between the two.

Lists are mutable data structures that help us to organize items that need ordering. We can change the values of their contents by adding, deleting or updating. They are useful when we have a bunch of values related to one another. Dictionaries are another form of data structure that are used when we have pairs of values that relate to one another. These key-value pairs identify a key with an associated value. Unlike a list we use the structure with items that have no particular order. Each key in a dictionary is unique. While in a list we access elements using an index, we use the keys to access elements in a dictionary. It is useful to use a dictionary because accessing elements is much more efficient than in a list.

2. The following dictionary represents information about smoothie ingredients.

```
Smoothie_ingredients = {'Fruits':
['apple','banana','pineapple', 'strawberry'], 'Vegetables':
['kale', 'spinach', 'carrots']}
```

Write code with a for loop to add the following new fruits and vegetable ingredients:

```
('Fruits', 'blueberries') ('Vegetables', 'beets')
```

```
Smoothie_ingredients = {'Fruits': ['apple','banana','pineapple', 'strawberry'], 'Vegetables': ['kale', 'spinach', 'carrots']}
lst = [('Fruits', 'blueberries'), ('Vegetables', 'beets')]

def update(Smoothie_ingredients, lst):
    for food,name in lst:
        Smoothie_ingredients[food].append(name)
        print(Smoothie_ingredients)

update(Smoothie_ingredients, lst)
```

3. (Optional Star Point) Explain what dictionary and function you created and why they are useful.

My updateRunningAvg function takes in a dictionary of training averages and the number of samples used to collect those avgs. This tuple is paired with a key value string, the name of the lift. Additionally the function takes in a list of tuples containing new numbers for a few lifts executed on a given day. The function updates the running avg and returns a new dictionary. It is useful because it allows me to enter a current days worth of highest numbers hit and calculate a new average for my overall capability in that specific lift.