

## Week 9 Take-Home Exercises

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- 1) In addition to these exercises, you should also keep working on any exercises from class that you didn't complete. 1-9 are good practice exercises and 10 is a challenge problem.
- 2) You have 8 eggs, 2 bottles of milk, 6 apples, and 3 yogurts.
  - a. Create a dictionary to store that information. The keys should be the name of the food, the values should be the amounts.
  - b. Write code that loops over your dictionary and prints "We have <amount> of <food>" for each item in your dictionary.
  - c. Write a function called `eat_breakfast` that removes two eggs, one bottle of milk, and an apple from your dictionary.
  - d. Add code to `eat_breakfast` to print "All out of <food>" if there is none left.
  - e. Write a function called `get_grocery_list` that returns a list of the food items in your dictionary that have amounts = 1 or 0.
- 3) Write code to produce a dictionary where the keys are integers and the values are the integer squared. For example, {1:1, 2:4, 3:9, 4:16}. Put all the numbers between 1 and 200 in your dictionary. Don't do this by hand! Write a loop to add numbers to the dictionary.
- 4) Write a function that takes in a list and returns a dictionary where the keys are the elements of the list and the values are the number of times that element occurs in the list.

For example, `get_counts(["a", "a", "b", "c", "b", "c", "d", "c"])` should return `{"a": 2, "b": 2, "c" : 3, "d": 1}`