

Week 3 homework

# PA Consulting: Intro to Programming with Python by Women in Tech

Please make sure you reach out to the instructors if you're stuck or if you have any questions whatsoever! We will be checking in on you to make sure you're getting on okay. No question is stupid or too big or small.

# Exercise 1

Create a new folder called week3 inside your homework folder Create a exercise1.py file inside your week3 folder

1a. Create a new list with the following items and name the list my\_list

"Amy", 1, "Beth", "Charlie", 6, "Daisy", 7, 2

1b. Replace Beth with Sandy

1c. For every number in the list, multiply it by itself (e.g. '6' should become '36' within the list)

Hint: use the type() function to check if each item is a number 1d. Count the number of integers which are over 5 in the new list

# Exercise 2

Create a exercise2.py file inside your week3 folder

2a. Write a dictionary named student\_scores with the following key:values

Amy: 67

Billy: 70

Charlie: 90

Daisy: 75

Emily: 71

2b. Write a function named addKeyValue which takes in 2 parameters of key and

value . This method should add a new key:value pair to the student\_scores dictionary. 2c. Call your method with a key of Fran and value of 85

2d. Create a list named passStudents of student names who have a score of 70 or more Hint: loop through the items in the student\_scores dictionary and check each score

Remove all students from the dictionary which have a score of less 70 and print the final dictionary

# Exercise 3

Create a exercise3.py file inside your week3 folder

3a. Convert the string question to a list so it prints out

['q','u','e','s','t','i','o','n']

3b. Given a list of lists, create a function that finds and print the list with the largest sum as well as the sum itself

Example input: [[5,3,2],[1,3,2,1],[3,2,3],[10,1,5],[6,7,2]]

Output: The list with the largest sum is [10,1,5], sum = 16

Hint: you may also want to create a second function which you call for each list, which sums the items in an individual list

3c. You're at a supermarket and this is a dictionary of all the items it sells along with every item's price in pounds

item\_price = { "apple" = 0.50,

"banana" = 0.10,

"mango" = 1.20,

"pasta" = 0.75,

"bread" = 1.00,

"milk" = 0.80,

"lettuce" = 0.90,

"egg" = 0.15,

"chicken" = 2.10

}

You need to buy the following things from this shopping list:

6 apples, 2 mangoes, 8 loaves of bread, 5 eggs, 2 packs of chicken

Print the following message with the total price of your groceries:

The total cost of my groceries is £X

Hint: create a dictionary with your shopping list and loop through it

3d. Write a function which will ask the user to input how many of each item in item\_price they would like, and prints out the total cost at the end in the following format:

Your shopping will cost £X