Python Basic Camp

Exercises Day 3

Python List methods: https://www.w3schools.com/python/python_lists_methods.asp

1.1 - Lists	Creating a list
Instructions	Create a list with the names of 4 fruits. Then print the list.
Expected output	My list: ['apple', 'banana', 'kiwi', 'lemon']
Solution	`my_list = ["banana", "apple", "strawberry", "kiwi"]` `print("My list: ", my_list)`

1.2 - Lists	Appending to a list
Instructions	Append "potato" to the list on the previous exercise. Then print the list. hint: use the list "append" method
Expected output	My list: ['apple', 'banana', 'kiwi', 'lemon', 'potato']
Solution	`my_list.append("potato")` `print("My list: ", my_list)`

1.3 - Lists	Extending a list
Instructions	Create a list called my_list = [1, 2, 3]. Add 4, 5 and 6 to the list. Then print the list. hint: use the list "extend" method
Expected output	My list: [1, 2, 3, 4, 5, 6]
Solution	`my_list = [1,2,3]` `my_list.extend([4,5,6])` `print("My list: ", my_list)`

1.4 - Lists	Inserting in a list
Instructions	Create a list called my_list = [1, 2, 5]. Insert 3 and 4 to the list in the right place. Then print the list. hint: use the list "insert" method
Expected output	My list: [1, 2, 3, 4, 5]

Solution	`my_list = [1,2,5]` `my_list.insert(2,3)` `my_list.insert(3,4)` `print("My list: ", my_list)`

1.5 - Lists	Removing from a list
Instructions	Create a list called my_list = [1, 2, 3, 99, 4, 5]. Remove 99 from the list. Then print the list. hint: use the list “remove” method
Expected output	My list: [1, 2, 3, 4, 5]
Solution	`my_list = [1,2,3,99,4,5]` `my_list.remove(99)` `print("My list: ", my_list)`

1.6 - Lists	Getting the index of an element
Instructions	Create a list called my_list = [1, 2, 3, 4, 5]. Print the index of the element 3 hint: use the list “index” method
Expected output	The index is 2
Solution	`my_list = [1,2,3,4,5]` `print("The index is", my_list.index(3))`

1.7 - Lists	Counting the occurrence of an element
Instructions	Print how many times the word “hello” is in the list my_list = ['Hello', 'I', 'said', 'hello', 'can', 'you', 'hear', 'I', 'said', 'hello', '?'] hint: use the list “count” method
Expected output	The word hello is there 2 times
Solution	`my_list = ["Hello", "I", "said", "hello", "can", "you", "hear", "I", "said", "hello", "?"]` `print("The word hello is there", my_list.count("hello"), "times.")`

1.8 - Lists	Reversing a list
Instructions	Reverse the list my_list = [1,2,3,4,5]. Then print the reversed list.

	hint: use the list “reverse” method
Expected output	My list: [5, 4, 3, 2, 1]
Solution	`my_list = [1,2,3,4,5]` `my_list.reverse()` `print("Reversed list: ", my_list)`

1.9 - Lists	Sort a list
Instructions	Sort the list my_list = [5, 8, 2, 4, 1, 0]. Then print the sorted list. hint: use the list “sort” method
Expected output	My list: [0, 1, 2, 4, 5, 8]
Solution	`my_list = [5,8,2,4,1,0]` `my_list.sort()` `print("My list: ", my_list)`

2.1 - For Loop	Add all numbers in a list
Instructions	Given the list my_list = [3, 7, 21, 14, 15]. Write a program that loops through the numbers in the list and adds them. Then print the total.
Expected output	Sum of numbers: 60
Solution	`my_list = [3, 7, 21, 14, 15]` `total = 0` `for number in my_list:` `  total += number` `print("Total is: ", total)`

2.2 - For Loop	Find all even numbers
Instructions	Given the list my_list = [3, 7, 21, 14, 15, 22, 10]. Write a program that loops through the numbers in the list and appends the even numbers to a new list. Then print the new list.
Expected output	Even numbers: [14, 22, 10]
Solution	`my_list = [3, 7, 21, 14, 15, 22, 10]` `even_numbers = []` `for number in my_list:`

	`` if number%2 == 0: even_numbers.append(number) print("My even numbers are: ", even_numbers) ```

2.3 - For Loop	Count the vowels
Instructions	Given the list my_list = [‘apple’, ‘banana’, ‘cherry’]. Write a program that counts the number of vowels in each word of a given list, stores these results in a new list and then prints it.
Expected output	Vowel counts: [2, 3, 1]
Solution	``` my_list = ["apple", "banana", "cherry"] vowels_list = [] for word in my_list: counter = 0 for letter in word: if letter in "aeiou": counter += 1 vowels_list.append(counter) print("Vowels list: ", vowels_list) ```

2.4 - For Loop	Find the maximum number
Instructions	Given the list my_list = [1, 5, 3, 7, 2]. Write a program that finds the maximum number in the list. Then print the result
Expected output	The maximum number is 7
Solution	``` my_list = [1,5,3,7,2] max_value = my_list[0] for number in my_list: if number > max_value: max_value = number print("The maximum number is", max_value) ```

2.5 - For Loop	Program for a group chat
Instructions	Write a program to create a group chat. The program should: 1. Read the number of participants. 2. Request the names of the participants one at a time. After reading each name, the program displays a personalized greeting: "Welcome

	__." 3. After reading all the names, display the message "Group chat created!"
Expected output	Number of participants: >>> 2 Enter name: >>>Kate Welcome Kate! Enter name: >>>John Welcome John! Group chat created!
Solution	`participants_amount = int(input("Number of participants: "))` `for i in range(participants_amount):` `    name = input("Enter name: ")` `    print("Welcome " + name + "!")` `print("Group chat created!")`

2.6 - For Loop	Enter the right password
Instructions	The user should enter a password, the program keeps asking for another password until they enter the correct one. The user has a maximum of 3 attempts to enter the password. The right password is “password123”
Expected output Example 1	Enter the password (3 attempts remaining): >>>ABC123 Incorrect password. Try again. Enter the password (2 attempts remaining): >>>password123 Password correct!
Expected output Example 2	Enter the password (3 attempts remaining): >>>ABC123 Incorrect password. Try again. Enter the password (2 attempts remaining): >>>pass123 Incorrect password. Try again. Enter the password (1 attempt remaining): >>>mypassword Incorrect password. No more attempts remaining.
Solution	`right_password = "password123"` `for i in range(3):` `    password = input("Enter the password (" + str(3-i) + " attempts remaining): ")` `    if password == right_password:`

	`` break elif i < 2: print("Incorrect password. Try again") if password == right_password: print("Password correct!") else: print("Incorrect password. No more attempts remaining.") ```