Hands on exercise for Python

*'''Exercise 1: Create a List*

*Create a list called fruits with the following items: "apple", "banana", "cherry", "date", and "elderberry".*

*Print the list.'''*

fruits = ["apple", "banana", "cherry", "date", "elderberry"]

print(fruits)

'''

Exercise 2: Access List Elements

Print the first and last items from the fruits list.

Print the second and fourth items from the list.

'''

print(f" first fruit is : '{fruits[0]}' and last fruit is: '{fruits[-1]}' ")

print(f" second fruit is : '{fruits[1]}' and fourth fruit is:' {fruits[3]}'")

'''

Exercise 3: Modify a List

Replace "banana" in the fruits list with "blueberry".

Print the modified list.

'''

fruits[1] = 'blueberry'

print(fruits)

'''

Exercise 4: Add and Remove Elements

Append "fig" and "grape" to the fruits list.

Remove "apple" from the list.

Print the final list.

'''

fruits.append("fig")

fruits.append("grape")

fruits.remove("apple")

print(fruits)

'''

Exercise 5: Slice a List

Slice the first three elements from the fruits list and assign them to a new list called first\_three\_fruits.

Print first\_three\_fruits.

'''

first\_three\_fruits = fruits[:3]

print(first\_three\_fruits)

'''

Exercise 6: Find List Length

Find and print the length of the fruits list.

'''

print(len(fruits))

'''

Exercise 7: List Concatenation

Create a second list called vegetables with the following items: "carrot", "broccoli", "spinach".

Concatenate the fruits and vegetables lists into a new list called food.

Print the food list.

'''

vegetables = ["carrot", "broccoli", "spinach"]

food = fruits + vegetables

print(food)

'''

Exercise 8: Loop Through a List

Loop through the fruits list and print each item on a new line.

'''

for fruit in fruits:

print(fruit)

'''

Exercise 9: Check for Membership

Check if "cherry" and "mango" are in the fruits list. Print a message for each check.

'''

# Exercise 9: Check for Membership (Alternative Method)

if "cherry" in fruits:

print("cherry is in the list.")

elif "mango" in fruits:

print("mango is in the list.")

else:

print("try again.")

'''

Exercise 10: List Comprehension

Use list comprehension to create a new list called fruit\_lengths that contains the lengths of each item in the fruits list.

Print the fruit\_lengths list.

'''

fruit\_lengths = [len(fruit) for fruit in fruits]

print(fruit\_lengths)

'''

Exercise 11: Sort a List

Sort the fruits list in alphabetical order and print it.

Sort the fruits list in reverse alphabetical order and print it.

'''

fruits.sort()

print(fruits)

fruits\_reversed = fruits[::-1]

print(fruits\_reversed)

'''

Exercise 12: Nested Lists

Create a list called nested\_list that contains two lists: one with the first three fruits and one with the last three fruits.

Access the first element of the second list inside nested\_list and print it.

'''

nested\_list = [fruits[:3], fruits[-3:]]

print(nested\_list[1][0])

'''

Exercise 13: Remove Duplicates

Create a list called numbers with the following elements: [1, 2, 2, 3, 4, 4, 4, 5].

Remove the duplicates from the list and print the list of unique numbers.

'''

numbers = [1, 2, 2, 3, 4, 4, 4, 5]

unique\_numbers = []

for num in numbers:

if num not in unique\_numbers:

unique\_numbers.append(num)

print(unique\_numbers)

'''

Exercise 14: Split and Join Strings

Split the string "hello, world, python, programming" into a list called words using the comma as a delimiter.

Join the words list back into a string using a space as the separator and print it.

'''

string = "This is an Example string"

words = string.split()

new\_string = " ".join(words)

print("Splitting of string: ",words)

print("joining the string: ",new\_string)