**TASK(26-8-24)**

**BY AMITA C**

**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(fruits[0]) # First item

print(fruits[-1]) # Last item

print(fruits[1]) # Second item

print(fruits[3]) # Fourth item

**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.**

if "cherry" in fruits:

print("Cherry is in the fruits list.")

else:

print("Cherry is not in the fruits list.")

if "mango" in fruits:

print("Mango is in the fruits list.")

else:

print("Mango is not in the fruits list.")

**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.sort(reverse=True)

print(fruits)

**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 = list(set(numbers))

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.**

words = "hello, world, python, programming".split(", ")

joined\_string = " ".join(words)

print(joined\_string)