EXERCISE-3

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

Program:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
print(fruits)
```

2. Print the first and last items from the fruits list. Print the second and fourth items from the list.

Program:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
print(fruits[0])
print(fruits[-1])
print(fruits[1])
print(fruits[3])
```

3. Replace "banana" in the fruits list with "blueberry".Print the modified list.

Program:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
fruits[1] = "blueberry"
print(fruits)
```

4. Append "fig" and "grape" to the fruits list.Remove "apple" from the list.Print the list.

Program:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
fruits.append("fig")
fruits.append("grape")
fruits.remove("apple")
```

```
print(fruits)
```

5. Slice the first three elements from the fruits list and assign them to a new list called first_three_fruits. Print first_three_fruits.

Program:

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

first_three_fruits = fruits[:3]

print(first_three_fruits)
```

6. Find and print the length of the fruits list.

Program:

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

print(len(fruits))
```

7. 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.

Program:

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

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

food = fruits + vegetables

print(food)
```

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

Program:

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

for fruit in fruits:
    print(fruit)
```

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

Program:

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

10. 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.

Program:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
fruit_lengths = [len(fruit) for fruit in fruits]
print(fruit_lengths)
```

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

Program:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
fruits.sort()
print(fruits)
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
fruits.sort(reverse=True)
print(fruits)
```

12. 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.

Program:

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

nested_list = [fruits[:3], fruits[3:]]

print(nested_list[1][0])
```

13. 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.

Program:

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

unique_numbers = list(set(numbers))

print(unique_numbers)
```

Program:

```
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)
```

14. 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.

Program:

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

joined_string = " ".join(words)

print(joined_string)
```