A) Write program to create a list, manipulate and slicesit.

Program:-

```
fruits = ["apple", "banana", "cherry", "date", "elderberry"]
print("Original list:", fruits)
fruits.append("fig")
print("After appending 'fig':", fruits)
fruits.insert(2, "blueberry")
print("After inserting 'blueberry' at index 2:", fruits)
fruits.remove("date")
print("After removing 'date':", fruits)
fruits[1] = "blackberry"
print("After updating index 1 to 'blackberry':", fruits)
print("First three items:", fruits[:3])
print("Last two items:", fruits[-2:])
print("Middle items (index 2 to 4):", fruits[2:5])
print("All items except the first and last:", fruits[1:-1])
```

OUTPUT:-

```
Original list: ['apple', 'banana', 'cherry', 'date', 'elderberry']
After appending 'fig': ['apple', 'banana', 'cherry', 'date', 'elderberry', 'fig']
After inserting 'blueberry' at index 2: ['apple', 'banana', 'blueberry', 'cherry', 'date', 'elderberry', 'fig']
After removing 'date': ['apple', 'banana', 'blueberry', 'cherry', 'elderberry', 'fig']
After updating index 1 to 'blackberry': ['apple', 'blackberry', 'blueberry', 'cherry', 'elderberry', 'fig']
First three items: ['apple', 'blackberry', 'blueberry']
Last two items: ['elderberry', 'fig']
Middle items (index 2 to 4): ['blueberry', 'cherry', 'elderberry']
All items except the first and last: ['blackberry', 'blueberry', 'cherry', 'elderberry']
```

B) Create a new list and add elements to it from another list, and creates a matrix from two lists.

Program:-

```
list1 = [1, 2, 3]
list2 = [4, 5, 6]
new_list = []
for item in list1:
    new_list.append(item)
new_list.extend(list2)
print("New combined list:", new_list)
matrix = [list1, list2]
print("Matrix (2D list):")
for row in matrix:
print(row)
```

OUTPUT:-

```
New combined list: [1, 2, 3, 4, 5, 6]
Matrix (2D list):
[1, 2, 3]
[4, 5, 6]
```

C) Create same a, b steps foqr Tuple and Dictionary.

Program:-

```
# Tuple operations
fruits = ("apple", "banana", "cherry", "date", "elderberry")
print("Original tuple:", fruits)
print("First three items:", fruits[:3])
print("Last two items:", fruits[-2:])
print("Middle items (index 2 to 4):", fruits[2:5])
print("All except first and last:", fruits[1:-1])
temp_list = list(fruits)
temp_list.append("fig")
temp_list[1] = "blackberry"
temp_list.remove("date")
fruits_modified = tuple(temp_list)
print("Modified tuple:", fruits_modified)

# Dictionary operations
person = {
   "name": "Alice",
   "age": 30,
   "city": "New York"
}
print("Original dictionary:", person)
person["profession"] = "Engineer"
person["age"] = 31
del person["city"]
print("Updated dictionary:", person)
print("Keys:", list(person.keys()))
print("Values:", list(person.values()))
```

OUTPUT:-

```
Original tuple: ('apple', 'banana', 'cherry', 'date', 'elderberry')
First three items: ('apple', 'banana', 'cherry')
Last two items: ('date', 'elderberry')
Middle items (index 2 to 4): ('cherry', 'date', 'elderberry')
All except first and last: ('banana', 'cherry', 'date')
Modified tuple: ('apple', 'blackberry', 'cherry', 'elderberry', 'fig')
Original dictionary: {'name': 'Alice', 'age': 30, 'city': 'New York'}
Updated dictionary: {'name': 'Alice', 'age': 31, 'profession': 'Engineer'}
Keys: ['name', 'age', 'profession']
Values: ['Alice', 31, 'Engineer']
```