Python Assignment – 2

Q.1 List (Array)

1. Create a list of five integers.
2. Perform the following operations:
   - Display the list
   - Add a new element to the list
   - Remove an element from the list
   - Display the updated list

Q.2 Tuple

1. Create a tuple containing student details such as:
   - Name
   - Roll Number
   - Standard
   - Marks
2. Print all elements of the tuple.
3. Attempt to modify one element and observe the result.

Q.3 Set

1. Create a set of five numbers (include duplicate values).
2. Display the set.
3. Add a new element to the set.
4. Remove an element from the set.

Q.4 Dictionary

1. Create a dictionary to store student information with the following keys:
   - Name
   - Roll Number
   - Standard
   - Marks
2. Print all keys and values.
3. Update the marks of the student.
4. Add a new key-value pair to the dictionary.

Q.5 List of Lists (Nested List)

1. Create a list of lists to store marks of three students in three subjects.
2. Display the complete list.

3. Access and print the marks of:
    - Second student
    - Third subject of the first student

Q.6 Iteration on Collections

1. Create a list of numbers.
2. Use a loop to print each element.
3. Calculate and display the sum of all elements in the list.

Q.7 Importing a Package / Module

1. Import the built-in `math` module.
2. Use it to:
    - Calculate the square root of a number
    - Calculate the factorial of a number

Q.8 Importing Functions from Another File

1. Create a Python file named `operations.py`.
2. Define functions for:
    - Addition
    - Subtraction
3. Create another Python file.
4. Import the functions from `operations.py` and use them.

Q.9 Mini Practice Program

1. Create a dictionary where the key is a subject name and the value is a list of marks.
2. Print each subject along with its marks using a loop.