**TASK 4 Use various data types, List, Tuples and Dictionary in python programming (CO1-K3)**

**Problem 1 – List (Shopping Cart System)**

You are developing a simple **shopping cart system** for a small store.  
The store owner wants a program where they can:

* Add an item name to the cart
* Remove an item from the cart
* Show all items currently in the cart

The program should first ask for the number of items to be added, store them in a list, and finally display the complete cart.

**Program:**

cart = [] # empty shopping cart list

n = int(input("Enter number of items to add: "))

for i in range(n):

item = input("Enter item name: ")

cart.append(item)

print("Current cart:", cart)

remove\_item = input("Enter item to remove: ")

if remove\_item in cart:

cart.remove(remove\_item)

else:

print("Item not found in cart.")

print("Final cart:", cart)

**Problem 2 – Tuple (Exam Marks Record)**

A school is storing exam marks of a student in a **tuple** to make sure the data cannot be changed later.  
Write a Python program that:

* Reads marks for n subjects from the user
* Stores them in a tuple
* Prints the tuple and the **highest mark** scored by the student

n = int(input("Enter number of subjects: "))

marks\_list = []

for i in range(n):

mark = int(input(f"Enter marks for subject {i+1}: "))

marks\_list.append(mark)

marks\_tuple = tuple(marks\_list)

print("Marks tuple:", marks\_tuple)

highest = marks\_tuple[0]

for m in marks\_tuple:

if m > highest:

highest = m

print("Highest marks:", highest)

**Problem 3 – Dictionary (Library Book Tracker)**

A librarian wants to track which books are available in the library along with the number of copies for each.  
Write a Python program that:

* Asks for the number of books to record
* For each book, takes the **book title** and the **number of copies** as input
* Stores them in a dictionary where the **title** is the key and **copies available** is the value
* Finally, prints the complete dictionary

Program:

books\_dict = {}

n = int(input("Enter the number of books to record: "))

for i in range(n):

title = input("Enter book title: ")

copies = int(input("Enter number of copies: "))

books\_dict[title] = copies

print("Library Book Records:")

print(books\_dict)

**Problem 4**

Ravi is a librarian who needs to keep track of the titles of books recently issued from his library. He decides to store the names of the books in a list so that he can easily update, search, and display them later.

Write a Python program that:

* Allows Ravi to input the number of books issued.
* Stores the book titles in a list.
* Displays the list of issued books.
* Allows Ravi to search for a book title to check if it was issued.
* Displays how many times the searched book title appears in the issued list (count).

**Program:**

n = int(input("Enter number of books issued: "))

issued\_books = []

for i in range(n):

book = input("Enter book title: ")

issued\_books.append(book)

print("\nList of issued books:", issued\_books)

search\_book = input("Enter the book title to search: ")

if search\_book in issued\_books:

count = issued\_books.count(search\_book)

print("Book is issued.")

print("Number of times this book is issued:", count)

else:

print("Book is not issued.")