Question-1: Write a program for addition and multiplication of two numbers

Source Code:

num1 = float(input("Enter first number: "))

num2 = float(input("Enter second number: "))

# Addition

sum\_result = num1 + num2

# Multiplication

product\_result = num1 \* num2

# Output results

print("Addition:", sum\_result)

print("Multiplication:", product\_result)

Question-2: Write a program for finding the sum of all numbers in a given list.

Source Code:

n = int(input("How many numbers you want in list: "))

list1 = []

for i in range(n):

list1.append(int(input()))

sum = 0

for i in list1:

sum += i

print("Sum of all numbers are: ", sum)

Question-3: Write a program for finding the largest and smallest element in a given list

Source Code:

# Input list from user

numbers = list(map(int, input("Enter numbers separated by space: ").split()))

# Find largest and smallest

largest = max(numbers)

smallest = min(numbers)

# Output results

print("Largest number:", largest)

print("Smallest number:", smallest)

Question-4: Write a program to count number of elements in a list

Source Code:  
  
# Input list from user

numbers = list(map(int, input("Enter numbers separated by space: ").split()))

# Count elements

count = len(numbers)

# Output result

print("Number of elements in the list:", count)

Question-5: Write a program whether an element is a member of list

Source Code:

# Take list input from user

numbers = list(map(int, input("Enter list elements separated by space: ").split()))

# Take the element to search

element = int(input("Enter the number to search: "))

# Check membership

if element in numbers:

print(f"{element} is in the list.")

else:

print(f"{element} is not in the list.")

Question-6: Write a program to reverse a list

Source Code:

# AI Lab: Reverse a List (User Input)

# Take list input from user

numbers = list(map(int, input("Enter list elements separated by space: ").split()))

# Reverse the list

reversed\_list = numbers[::-1]

# Output result

print("Reversed list:", reversed\_list)

Question-7: Write a program to find out Union and Intersection of two list.

Source Code:

# AI Lab: Union and Intersection of Two Lists

# Input two lists from user

list1 = list(map(int, input("Enter elements of first list (space-separated): ").split()))

list2 = list(map(int, input("Enter elements of second list (space-separated): ").split()))

# Convert lists to sets

set1 = set(list1)

set2 = set(list2)

# Find Union and Intersection

union\_result = list(set1.union(set2))

intersection\_result = list(set1.intersection(set2))

# Output results

print("Union:", union\_result)

print("Intersection:", intersection\_result)

Question-8: Write a program to determine the Greatest Common Division of two positive integer numbers

Source Code:

# AI Lab: Find GCD of Two Positive Integers

# Input from user

a = int(input("Enter first positive integer: "))

b = int(input("Enter second positive integer: "))

# Function to find GCD using Euclidean algorithm

def find\_gcd(x, y):

while y:

x, y = y, x % y

return x

# Calculate GCD

gcd = find\_gcd(a, b)

# Output result

print("GCD of", a, "and", b, "is:", gcd)

Question-9: Write a program to find whether a given number is odd or even

Source Code:

# Input from user

num = int(input("Enter a number: "))

# Check if even or odd

if num % 2 == 0:

print(num, "is Even")

else:

print(num, "is Odd")