**Netaji Subhash Engineering College**

**Department of Computer Science & Engineering**

**B. Tech CSE 2nd Year 3rd Semester**

**2021-2022**

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**Name of the Course: IT Workshop**

**Course Code: PCC-CS393**

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**Class Roll No.: 3**

**University Roll No.: 10900120003**

**Date of Experiment: 3/12/2021**

**Date of Submission: 9/12/2021**

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* **Assignment No.: 27**

**Problem Statement:** Write a program to find the maximum and minimum of a list of numbers without using built-in functions

**Python Code:**

def minmax (x):

    minimum = maximum = x[0]

    for i in x[1:]:

        if i < minimum:

            minimum = i

        else:

            if i > maximum: maximum = i

    return (minimum,maximum)

list = []

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

for i in range(0, n):

    ele = int(input())

    list.append(ele)

print("Minimum and Maximum numbers are",minmax(list))

**Sample Output(s):**

**Text

Description automatically generated**

* **Assignment No.: 28**

**Problem Statement:** Write a program to multiply two matrices as nested lists

**Python Code:**

r\_a = int(input("Enter the Number of rows  for matrix A: " ))

c\_a = int(input("Enter the Number of Columns for matrix A: "))

print("Enter the elements of Matrix A:")

matrix\_a= [[int(input()) for i in range(c\_a)] for i in range(r\_a)]

print("First Matrix is: ")

for n in matrix\_a:

    print(n)

c\_b = int(input("Enter the Number of Columns for matrix B: "))

print("Enter the elements of Matrix B:")

matrix\_b= [[int(input()) for i in range(c\_b)] for i in range(c\_a)]

for n in matrix\_b:

    print(n)

result=[[0 for i in range(c\_b)] for i in range(r\_a)]

for i in range(len(matrix\_a)):

    for j in range(len(matrix\_b[0])):

        for k in range(len(matrix\_b)):

            result [i][j]+=matrix\_a[i][k]\*matrix\_b[k][j]

print("\nMatrix\_a X Matrix\_b is: ")

for r in result:

    print(r)

**Sample Output(s):**

**Text

Description automatically generated**

* **Assignment No.: 29**

**Problem Statement:** Write a program to find the union of two lists

**Python Code:**

list1 = []

num1 = int(input('Enter size of list 1: '))

for n in range(num1):

    num1 = int(input('Enter element: '))

    list1.append(num1)

list2 = []

num2 = int(input('Enter size of list 2: '))

for n in range(num2):

    num2 = int(input('Enter element: '))

    list2.append(num2)

union\_list = []

for x in list1:

    union\_list.append(x)

for y in list2:

    if y in list1:

        pass

    else:

        union\_list.append(y)

print("The union of the two lists is", union\_list)

**Sample Output(s):**

**Text

Description automatically generated**

* **Assignment No.: 30**

**Problem Statement:** Write a program to concatenate two lists using list comprehension.

**Python Code:**

list1 = []

list2 = []

len1 = int(input("Enter number of elements in first list: "))

for i in range(1, len1+1):

            num = int(input("Enter element %d: " %(i)))

            list1.append(num)

len2 = int(input("Enter number of elements in second list: "))

for i in range(1, len2+1):

            num = int(input("Enter element %d: " %(i)))

            list2.append(num)

numbers = [y for x in [list1, list2] for y in x]

print("The concatenated list is", numbers)

**OUTPUT –**

**Text

Description automatically generated**

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* **Assignment No.: 31**

**Problem Statement:** Write a program to create a list from two given lists ‘list1’ and ‘list2’ of numbers such that it contains numbers that are present in ‘list2’ but not in ‘list1’.

**Python Code:**

list1 = []

list2 = []

list3 = []

len1 = int(input("Enter number of elements in list 1: "))

for i in range(1, len1+1):

    num = int(input("Enter element %d: " %(i)))

    list1.append(num)

len2 = int(input("Enter number of elements in list 2: "))

for i in range(1, len2+1):

    num = int(input("Enter element %d: " %(i)))

    list2.append(num)

for x in list2:

        if x in list1:

            pass

        else:

            list3.append(x)

print(list3)

**Sample Output(s):**

**Text

Description automatically generated**

**Assignment No.: 32**

**Problem Statement:**  Write a program to detect whether two strings are anagrams or not.

**Python Code:**

def areAnagram(str1, str2):

list = []

len = int(input("Enter number of elements: "))

for i in range(1, len + 1):

    num = int(input("Enter element %d: " %i))

    list.append(num)

print("The distinct pairs whose product is odd are: ")

for i in range(len):

    for j in range(i, len):

        product = list[i] \* list[j]

        if (product%2!=0):

                print (list[i],"X", list[j])

**Sample Output(s):**

**Text

Description automatically generated**

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