**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**

**Name of the Student: Sanjoy Saha**

**Class Roll No.: 3**

**University Roll No.: 10900120003**

**Date of Experiment: 24/12/2021**

**Date of Submission: 30/12/2021**

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* **Assignment No.: 45**

**Problem Statement:**   Write a program to define a function to compute GCD and LCM of two numbers hence to find GCD and LCM of two numbers.

**Python Code:**

def find\_gcd(a,b):

    gcd = 1

    for i in range(1,a+1):

        if a%i==0 and b%i==0:

           gcd = i

first = int(input('Enter first number: '))

second = int(input('Enter second number: '))

print('GCD of %d and %d is %d' %(first, second, find\_gcd(first, second)))

lcm = first \* second / find\_gcd(first, second)

print('LCM of %d and %d is %d' %(first, second, lcm)

**Sample Output(s):**

**Text

Description automatically generated**

* **Assignment No.: 46**

**Problem Statement:** Write a program to define a function to find all the unique elements of a list hence to find the unique elements of a given list.

**Python Code:**

def unique(list):

    uniqueList = []

    for i in list:

        if i not in uniqueList:

            uniqueList.append(i)

    return uniqueList

list = input("Enter a elements to insert in list: ").split()

print('Unique elements in the list are : ', unique(list))

**Sample Output(s):**

**Text

Description automatically generated**

* **Assignment No.: 47**

**Problem Statement:** Write a program to find all the numbers divisible by 5 and 7 between the given range using the lambda function.

**Python Code:**

def find\_divisible(start, end):

    return list(filter(lambda x: x % 5 == 0 and x % 7 == 0, range(start, end)))

def divisible():

    start, end = map(int, input("Enter the range: ").split())

    print("All devisible numbers are : ",find\_divisible(start, end))

divisible()

**Sample Output(s):**

**Graphical user interface, text

Description automatically generated**

* **Assignment No.: 48**

**Problem Statement:**  Create a module named ‘palindrome’ to check if a string is a palindrome or not. Write a program to find whether a string is a palindrome using the module ‘palindrome’.

**Python Code:**

import palindrome

x = input("Enter a string: ")

if palindrome.pal(x) == True:

    print("\nThe String is Palindrome")

else:

    print("\nThe String is not palindrome")

**palindrome.py**

def pal(stringInp):

    inverted = stringInp[-1::-1]

    if stringInp == inverted:

        return True

    else:

        return False

**OUTPUT –**

**Text

Description automatically generated**

* **Assignment No.: 49**

**Problem Statement:** Create a module named ‘prime’ to check whether a number is prime or not. Write a program to find the prime number between the given range using the user-defined module ‘prime’

**Python Code:**

import prime

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

if prime.primeCheck(num) == True:

    print("\nThe Number is a Prime Number")

else:

    print("\nThe Number is not a Prime Number")

prime.py

def primeCheck(num):

    check = 0

    for x in range(2, num):

        if (num % x) == 0:

            check = 1

            break

    if check == 0:

        return True

    else:

        return False

**Sample Output(s):**

**Text

Description automatically generated**

**Assignment No.: 50**

**Problem Statement:**  Write a program to shuffle elements of a list of random numbers between given ranges.

**Python Code:**

import random

def shuffle(randList):

    for i in range(len(randList)):

        j = random.randint(0, len(randList)-1)

        randList[i], randList[j] = randList[j], randList[i]

    return randList

start, end = map(int, input("Enter the start and end range: ").split())

rList = [random.randint(start, end) for i in range(6)]

print("\nInitial list: ", rList)

print("Shuffled list: ", shuffle(rList))

**Sample Output(s):**

**Text

Description automatically generated**

**--------------------END-----------------**