Netaji Subhash Engineering College

Department of Computer Science & Engineering

B. Tech CSE 2nd Year 3rd Semester

2021-2022

Name of the Course: IT Workshop

Course Code: PCC-CS393

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Class Roll No.: 3

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Date of Experiment: 24/12/2021

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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):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\
n lab assignment\Assignment 45.py"
Enter first number: 32
Enter second number: 40
GCD of 32 and 40 is 8
LCM of 32 and 40 is 160
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

- **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):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\Users\lenovo\Desktop\Pyth
Enter a elements to insert in list: 1 2 3 4 1 2 66 100 100 27 8
Unique elements in the list are :  ['1', '2', '3', '4', '66', '100', '27', '8']
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

- **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):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c
Enter the range: 20 70
All divisible numbers are :  [35]
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

- **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 –

```
The String is not palindrome
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "
Enter a string: madam

The String is Palindrome
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "
Enter a string: doctor

The String is not palindrome
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

- **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):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python
Enter a number: 2

The Number is a Prime Number
PS C:\Users\lenovo\Desktop\Python lab assignment> python
Enter a number: 55

The Number is not a Prime Number
```

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):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u
Enter the start and end range: 20 70

Initial list:  [43, 47, 51, 25, 43, 37]
Shuffled list:  [37, 43, 43, 25, 51, 47]
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

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