Slip 1

Write a Python function to check whether a number is in a given range

```
n1 = int(input("Enter a 1st Number : "))
n2 = int(input("Enter a 2nd number : "))
num = int(input("Enter a Number for check with in
range : "))

def check_range(a,b,c):
    if((a>=c and c>=b) or (a<=c and c<=b)):
        return True
    return False

if(check_range(n1,n2,num)):
    print(num," is between ",n1,"and",n2)
else:
    print(num," is NOT between ",n1,"and",n2)
```

Q.2) Write a Python program to find set difference, union, intersection and symmetric difference

```
s1 = {10,20,30,40,50,60}
s2 = {22,50,60,40,10,20,30}

print("Difference is : ",s2.difference(s1))
print("Union : ",s2.union(s1))
print("Intersection : ",s1.intersection(s2))
print("Symetric Difference :
",s1.symmetric_difference(s2))
```

Slip 2

Q.1) Write a Python program to get the 4 th element from front and 4th element from last of a tuple.

```
t = (10,20,30,40,50,60,70,80,90,100)

print("Given Elements are : ",t)
print("4th element from first : ",t[4])
print("4th element from last : ",t[-4])
```

Q.2) Write a Python program to perform given operations on set.

a. check whether 2 sets are equal or not

b. Symmetric difference

c. Intersection of sets

d. Find maximum and the minimum value in a set.

```
‘n1 = int(input("How  many number you wants to enter
(1st set) : "))

s1 = set()
for i in range(n1):
    x = int(input())
    s1.add(x)


n2 = int(input("How  many number you wants to enter
(2nd set): "))
s2 = set()
for i in range(n2):
    x = int(input())
    s2.add(x)
```

```
if( s1 == s2):
    print("Both SET are EQUAL ")
else:
    print("Both SET are NOT EQUAL ")

if( len(s1) > len(s2)):
    print("Symmetric Difference :
",s1.symmetric_difference(s2))
else:
    print("Symmetric Difference :
",s2.symmetric_difference(s1))

if( len(s1) > len(s2)):
    print("Intersection : ",s1.intersection(s2))
else:
    print("Intersection : ",s2.intersection(s1))

print("Max Value SET 1 : ",max(s1))
print("Max Value SET 2 : ",max(s2))
print("\nMin Value SET 1 : ",min(s1))
print("Min Value SET 2 : ",min(s2))
```

Slip 4

Q.1) Write a Python program to find the repeated items of a tuple.

```
n = int(input("How  many number you wants to enter  :
"))

l=[]
for i in range(n):
    x = int(input())
    l.append(x)

t = tuple(l)
l = []
print("\nRepeated items are : ")
for i in t:
   cnt = t.count(i)
   if(cnt > 1 and i not in l):
       l.append(i)

print(l)
```

Q.2) Write a Python program to match key values in two dictionaries. [20 M] Sample dictionary: {'key1': 1, 'key2': 3, 'key3': 2}, {'key1': 1, 'key2': 2} Expected output: key1: 1 is present in both x and y

```
d1 = {'key1': 1, 'key2': 3, 'key3': 2}
d2 = {'key1': 1, 'key2': 2}

print("D1 : ",d1)
print("D2 : ",d2)

key = input("Enter key for search : ")
```

```
if (key in d1 and key in d2):
    print(key," is present in both dictonary !!")
else:
    print(key," is NOT present in both dictonary !!")
```

Slip 5

Q.1) Write a Python program to sort the tuple T=(4,2,6.8,1.8,10) .

```
# t=(4,2,6.8,1.8,10)
# t = tuple(sorted(t))
# print("After Sorting : ",t)

t=(4,2,6.8,1.8,10)

print("Given Data is : ",t)

l = list(t)

for i in range(len(l)):
    for j in range(len(l)-i-1):
        if(l[j] > l[j+1]):
            temp = l[j]
            l[j] = l[j+1]
            l[j+1] = temp

t = tuple(l)
print("After Sorting : ",t)
```

Q.2) Write a function to calculate the sum of numbers from 0 to n.

```
n = int(input("Enter N : "))

# def sum(n):
#     return (n*(n+1))/2

def sum(n):
   result = 0
   for i in range(n+1):
      result += i
```

```
    return result

print("Sum 0 to ",n," : ",sum(n))
```

Slip 6

Q.1) Write a Python program to print the set difference and a symmetric difference of two sets.

```
s1 = {10,20,30,40,50,60,70,80,90,100}
s2 = {1,2,3,4,5,6,7,8,9,10}

print("s1 : ",s1)
print("s2 : ",s2)

print("\nDifference is (s1 - s2): ",s1-s2)
print("Difference is (s2 - s1): ",s2-s1)

print("\nSymmetric Difference is :
",s1.symmetric_difference(s2))
```

Q.2) Write a Python program to display occurrence of the elements in the tuple, which appears more than 2 times.

```
n = int(input("How  many number you wants to enter  :
"))

l=[]
for i in range(n):
    x = int(input())
    l.append(x)
t = tuple(l)
l = []
print("\nElements having more 2 Occurrence : ")
for i in t:
   cnt = t.count(i)
   if(cnt > 2 and i not in l):
       l.append(i)
print(l)
```

Slip 7

Q.1) Write a Python program to find maximum and the minimum value in a set

```
n = int(input("How many number you wants enter : "))

s = set()
for i in range(n):
    x = int(input())
    s.add(x)

max =min= list(s)[0]
for i in s:
    if(max < i):
        max =i
    if(min > i):
        min = i

print("\nMaximum is : ",max)
print("Minimum is : ",min)
```

Q.2) Write a Python script to generate and print a dictionary that contains a number (between 1 to n) in the form (x, x*x). Sample Dictionary (n = 5): Expected Output: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

```
n = int(input("Enter a N : "))

d = {}

for i in range(1,n+1):
    d[i] = i**2

print("Dictonary is : ",d)
```

Slip 8

Q.1) Write a Python program to print average of all elements of sets.

```
n = int(input("How many numbers you  wants to enter : "))

s = set()

for i in range(n):
    x = int(input())
    s.add(x)

sum = 0
for i in s:
   sum += i

print("Average is : ",(sum/n))
```

Q.2) Write a Python program to match key values in two dictionaries. Sample dictionary: {'key1': 1, 'key2': 3, 'key3': 2}, {'key1': 1, 'key2': 2} Expected output: key1: 1 is present in both x and y

```
d1 = {'key1': 1, 'key2': 3, 'key3': 2}
d2 = {'key1': 1, 'key2': 2}

print("D1 : ",d1)
print("D2 : ",d2)
key = input("Enter key for search : ")
if (key in d1 and key in d2):
    print(key," is present in both dictonary !!")
else:
    print(key," is NOT present in both dictonary !!")
```

Slip 9

Q.1) Write a Python program to create a tuple using two different tuples.

```
n1 = int(input("How many number you wants to enter
(tuple 1): "))

l = []
print("Enter ",n1,"number : ")
for i in range(n1):
    x = int(input())
    l.append(x)

t1 = tuple(l)

n2 = int(input("How many number you wants to enter
(tuple 2): "))
l = []
print("Enter ",n2,"number : ")
for i in range(n2):
    x = int(input())
    l.append(x)

t2 = tuple(l)

t3 = t1 + t2

print("After create a tuple using two different tuples
: ",t3)
```

Slip 10

Q.1) Write an anonymous function to calculate area of square.

```
side = int(input("Enter a side of square : "))

area = lambda side: side*side

print("Area of square : ",area(side))
```

Q.2) Write a Python program to create a dictionary from a string. Sample String: 'Hello all' Expected output: {'e': 1, 'o': 1, 'a': 1, 'l': 4, 'H': 1}

```
sentance = input("Enter a Sentance : ")

words = sentance.split(" ")
letter =[]
for i in words:
    letter.extend(list(i))

result = {}
for i in letter:
    cnt = letter.count(i)
    if( i not in result):
        result[i] = cnt

print("Result : ",result)
```

Slip 11

Q.1) Write a Python program to accept the strings which contains all vowels.

```
string = input("Enter a String contains vowel only :
")

flag = True
for i in string:
    if(i not in "aeiou"):
        flag = False
        break

if(flag):
    print("Successfull")
else:
    print("Unsuccessfull")
```

Q.2) Write a Python program to reverse a given number.

```
num = int(input("Enter a Number : "))

result = 0
while(num > 0):
    result = result * 10 + num %10
    num //= 10

print("Reverse Number is : ",result)
```

Slip 12

Q.1) Write a Python program to find the length of a string without using built-in function.

```
string = input("Enter a String : ")

cnt = 0
for i in string:
    cnt += 1

print("Length od String : ",cnt)
```

Q.2) Write a Python program to accept n numbers in list and remove duplicates from a list.

```
n = int(input("How many numbers you wants to enter :
"))

l = []
print("Enter ",n,"number : ")
for i in range(n):
    x = int(input())
    l.append(x)

temp = []

for i in l:
    if(i not in temp):
        temp.append(i)

l = temp
print("After removing duplicates : ",l)
```

Slip 13

Q.1) Write a program which prints Fibonacci series of a number.

```
n = int(input("Enter a Number : "))

a = 0
b = 1

print("Series is : ")
if(n == 1):
    print(a)
elif(n==2):
    print(a," ",b)
elif(n>2):
    print(a," ",b,end="")
    for i in range(2,n):
        c = a+b
        print(" ",c,end="")
        a = b
        b = c
```

Q.2) Write a Python program to generate and print a dictionary that contains a number (between 1 and n) in the form (x, x*x). Sample Dictionary (n = 5) Expected Output: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

```
n = int(input("Enter a N : "))

d = {}

for i in range(1,n+1):
    d[i] = i**2

print("Dictonary is : ",d)
```

Slip 14

Q.1) Write a Python program to create a tuple of n numbers and print maximum, minimum, and sum of elements in a tuple

```
t = (10,20,30,100,70,80,90,50)

print("Given Data is : ",t)

print("\nMaximum is : ",max(t))
print("\nMinimum is : ",min(t))
print("\nSum is : ",sum(t))
```

Q.2) Write a Python program which accept an integer value 'n' and display all prime numbers till 'n'

```
n = int(input("Enter a N : "))

for i in range(2,n+1):
    if(all(i%j != 0 for j in range(2,(i//2)+1))):
        print(i)
```

Slip 15

_Q.1) Write a python program to check if a string is a Palindrome or not.

```
num = int(input("Enter a Number : "))
n = num
result = 0
while(num > 0):
    result = result * 10 + num %10
    num //= 10

if(n == result):
    print(result," is Palindrome ")
else:
    print(n," is NOT Palindrome ")
```

Q.2) Write a Python program which finds sum of digits of a number. [20 M] Example n=135 then output is 9 (1+3+5).

```
n = int(input("Enter a Number : "))

sum = 0

while(n>0):
    sum = sum + n%10
    n //= 10

print("Sum of digits are : ",sum)
```