Experiment – 5 b)

Aim: Applying Looping statements to solve the given problem.

Objective1: Write a Python Program to iterate over Sequence: List, Tuple, Set and Dictionary using 'for' loop.
Program 1:

```
#Iterating over a list
L = [100, 110, 21, 33, 32, 2, 4]
for i in L:
   print(i, end=" ")
#Iterating over a tuple
print("\n")
T = (10, 10, 21, 7, 8, 9, 5)
for i in T:
   print(i, end=" ")
#Iterating over a Set
print("\n")
S = {'london', 'new york', 'seattle', 'sydney','chicago'}
for i in S:
  print(i, end=" ")
#Iterating over a Dictionary
print("\n")
d = {'key1': 1, 'key2': 2, 'key3': 3}

print("\n")
for i in d:
   print(i)

print("\n")
for i in d:
   print(d)

print("\n")
for k in d.keys():
   print(k, end=" ")

print("\n")
for v in d.values():
   print(v, end=" ")

print("\n")
for k, v in d.items():
   print(k, v)
```

Output 1:

```
100 110 21 33 32 2 4

london chicago sydney seattle new york

10 10 21 7 8 9 5

key1
key2
key3

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

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

key1 key2 key3

1 2 3

key1 1
key2 2
key3 3
```

Objective 2: Write a Python Program to count the total number of words in the given sentence using 'for' loop.

Program 2:

```
a=input("Please! Enter any sentence:\n")
b=len(a)
sum=1
for i in range(b):
   if(a[i]==' ' or a[i] == '\t'):
      sum=sum+1
print("Total number of words in the given sentence is: ",sum)
```

Output 2:

Please! Enter any sentence:
Python programming language
Total number of words in the given sentence is: 3

Objective 3: Write a Python Program to calculate the sum of even and odd numbers in a list.

Program 3:

```
my_list = [1, 2, 3, 4, 100, 110, 21, 33]

even = []
odd = []

e_sum = 0
o_sum = 0

for i in my_list:
   if i%2 == 0:
     even.append(i)
     e_sum+= i
   else:
     odd.append(i)
     o_sum+= i

print('The sum of even numbers', even, 'is:', e_sum)
print('The sum of odd numbers',odd, 'is:', o_sum)
```

Output 3:

The sum of even numbers [2, 4, 100, 110] is: 216
The sum of odd numbers [1, 3, 21, 33] is: 58

Objective 4: Write a Python Program to print individual characters of each of the words within a tuple.

Program 4:

```
my_list= ("Apple", "Bag", "Car")

for i in my_list:

   print ("The individual letters of", i , "are:")

   for j in i:

     print(j)
```

Output 4:

```
The individual letters of Apple are:
A
p
p
l
e
The individual letters of Bag are:
B
a
g
The individual letters of Car are:
C
a
r
```

Objective 5: Write a to implement Election Polling using Loops in Python.

Program 5:

```
# define an empty dictionary
a = {}

# Set a flag to show that polling is active.
polling_active = True

while polling_active:
            # Prompt for the person's name and response.
            name = input("\nEnter your name:")
            candidate = input("Enter the name of the candidate you want to vote for: ")

           # Store the response in the dictionary
            a[name] = candidate

            # Find out if the poll should continue or not.
            repeat = input("Please refer another person? (yes/ no) ")

            if repeat == 'no':
              polling_active = False

           print("\n\n....Poll Results...")

for name, candidate in a.items():
 print(name + " voted for " + candidate + ".") # print results of the poll
```

Output:

```
Enter your name:A
Voted for candidate: Droupadi Murmu
Please refer another person? (yes/ no) yes
Enter your name:B
Voted for candidate: Yashwant Sinha
Please refer another person? (yes/ no) yes
Enter your name:C
Voted for candidate: Droupadi Murmu
Please refer another person? (yes/ no) no

....Poll Results...
A Voted for candidate Droupadi Murmu.
B Voted for candidate Yashwant Sinha.
C Voted for candidate Droupadi Murmu.
```