I MCA B 2023

PYTHON

LAB EXERCISE – 2

1.

```
# Create a LIST with your domain attributes, insert the elements using the
append (), insert(), extend().

my_list = []

my_list.append("PetID")
my_list.append(["Description"])

my_list.insert(2, "PetCategory")

ID = [45]
my_list.extend(ID)

Name= ({"Petname": "Buggy"})
my_list.append(Name)

Details = ({"Name", "Age","Petproducts" })
my_list.append(Details)

my_list.append(("Petcolour", "Pet type", "Petprice"))


print("My List:", my_list)
```

```
My List: ['PetID', ['Description'], 'PetCategory', 45, {'Petname':
'Buggy'}, {'Age', 'Petproducts', 'Name'}, ('Petcolour', 'Pet type',
'Petprice')]
```

2.

```
# Write a program to swap the first and last elements in a list

my_list = [35,45,55,65,75]

def swap_first_last(last):

  first = last[0]
```

```
  last[0] = last[-1]
  last[-1] = first

  return last

print("After Swapping : ",swap_first_last(my_list))
```

```
After Swapping :  [75, 45, 55, 65, 35]
```

3.

```
# Write a program to find the sum of the digits in a list

def listSum(numlist):
    sum=0
    for singleElement in numlist:
        sum+=singleElement
    print("The Sum is : ",sum)


listSum(my_list)
```

```
The Sum is :  275
```

4.

```
# Write a program to find the smallest element in a list

def min_element(lst):
  minimum = lst[0]
  for num in lst[1:]:
    if num < minimum:
      minimum = num
  return minimum

print("The Smallest is :")
print(min_element(my_list))
```

```
The Smallest is :
35
```

5.

```
# Sort the dictionary in ascending order based on the key of the dictionary

mydict={'a': 3, 'b': 4, 'c': 2,
'k': 6, 'm': 10, 'z': 22,
'p': 16, 'q': 5, 'r': 18}

keys= list(mydict.keys())
keys.sort()
# new_dict= {key:mydict[key] for key in keys}
new_dict = dict(sorted(mydict.items(),key=lambda item : item[0]))
print(new_dict)
```

```
{'a': 3, 'b': 4, 'c': 2, 'k': 6, 'm': 10, 'p': 16, 'q': 5, 'r': 18,
'z': 22}
```

6.

```
# Find the sum of all the values in the dictionary

sum=0
print(mydict.items())
for key,val in mydict.items():
    sum+=val
    print(val)
print("Sum : ",sum)
```

```
dict_items([('a', 3), ('b', 4), ('c', 2), ('k', 6), ('m', 10), ('z',
22), ('p', 16), ('q', 5), ('r', 18)])
3
4
2
6
10
22
16
5
18
Sum :  86
```

7.

```
# Write a Python code to demonstrate the sorting in descending order of values
with lambda function


mydict={'a': 3, 'b': 4, 'c': 2,
'k': 6, 'm': 10, 'z': 22,
'p': 16, 'q': 5, 'r': 18}

def sort_by_value_desc(d):
  # Create a list of tuples from the dictionary items
  items = list(d.items())
  # Sort the list by the second element of each tuple (the value) in reverse
order
  items.sort(key=lambda x: x[1], reverse=True)
  # Return a new dictionary from the sorted list
  return dict(items)

print()
print(sort_by_value_desc(mydict))
```

```
{'z': 22, 'r': 18, 'p': 16, 'm': 10, 'k': 6, 'q': 5, 'b': 4, 'a': 3,
'c': 2}
```