REALTIME APPLICATIONS USING LIST, TUPLE, SET, DICTIONARY

EX.NO.7A 1. ITEMS PRESENT IN LIBRARY(LIST)

DATE:5.2.23

AIM:

To create a list of items, present in a library and do all the operations on it.

ALGORITHM:

STEP 1: Start

STEP 2: Create a list named liblist that contains the elements Grammar, Physics, Comics, Electronics, Economics as the elements .

STEP 3: Display length of list by using len() function.

STEP 4: Append “History” to the list.

STEP 5: Display liblist.

STEP 6: Insert “Zoology ” to the index value 0.

STEP 7: Display liblist.

STEP 8: Assign a list named more\_liblist and the values in list are Novel, Science, Project

STEP 9 : Assign a value conc and Concatenate the Lists liblist and more\_liblist

STEP 10: Remove “Grammar”

STEP 11: Display liblist.

STEP 12: Pop the value from the list using pop() function

STEP 13: Display liblist.

STEP 14: Display the index value of Comics using the index() function

STEP 15: Display the count of Comics  using the count() function

STEP 16: Sort the liblist using sort() function

STEP 17: Display liblist.

STEP 18: Reverse the liblist using Reverse() function

STEP 19: Display liblist.

STEP 20: Display the minimum value of liblist using the min() function

STEP 21: Display the maximum value of liblist using the max() function

STEP 22: Display the count of novel using the count() function

STEP 23: Calculate liblist\*3 and display

STEP 24: Stop

PROGRAM:

#Items present in library

liblist=["Grammar","Physics","Comics","Electronics","Economics"]

print("Length of list: ", len(liblist))

liblist.append("History")

print("After append: ", liblist)

liblist.insert(0, "Zoology")

print("After insert: ", liblist)

more\_liblist = ["Novel", "Science", "Projects"]

conc= liblist + more\_liblist

print("List concatenation: ",conc)

liblist.remove("Grammar")

print("After remove: ", liblist)

popped = liblist.pop()

print("Popped value: ", popped)

print("After pop: ", liblist)

print("Index of Novel: ", liblist.index("Comics"))

print("Count of Novel: ", liblist.count("Comics"))

liblist.sort()

print("After sort: ", liblist)

liblist.reverse()

print("After reverse: ", liblist)

print("Minimum value: ", min(liblist))

print("Maximum value: ", max(liblist))

print("List repetition: ", liblist \* 3)

OUTPUT:

Length of list: 5

After append: ['Grammar', 'Physics', 'Comics', 'Electronics', 'Economics', 'History']

After insert: ['Zoology', 'Grammar', 'Physics', 'Comics', 'Electronics', 'Economics', 'History']

List concatenation: ['Zoology', 'Grammar', 'Physics', 'Comics', 'Electronics', 'Economics', 'History', 'Novel', 'Science', 'Projects']

After remove: ['Zoology', 'Physics', 'Comics', 'Electronics', 'Economics', 'History']

Popped value: History

After pop: ['Zoology', 'Physics', 'Comics', 'Electronics', 'Economics']

Index of Novel: 2

Count of Novel: 1

After sort: ['Comics', 'Economics', 'Electronics', 'Physics', 'Zoology']

After reverse: ['Zoology', 'Physics', 'Electronics', 'Economics', 'Comics']

Minimum value: Comics

Maximum value: Zoology

List repetition: ['Zoology', 'Physics', 'Electronics', 'Economics', 'Comics', 'Zoology', 'Physics', 'Electronics', 'Economics', 'Comics', 'Zoology', 'Physics', 'Electronics', 'Economics', 'Comics']

EXNO.7B 2. COMPONENTS OF CAR(TUPLE)

DATE:5.2.23

AIM:

To create a tuple for components of a car and show all the operations.

ALGORITHM:

STEP 1: Start

STEP 2: Create a tuple named car\_components that contains the elements Engine, Turbo, Doors, Steering , Tyres as the elements .

STEP 3: Display length of tuple by using len() function.

STEP 4: Display the index value of Doors using the index() function

STEP 5: Display the count of Doors using the count() function

STEP 6: Display the minimum value of car\_components using the min() function

STEP 7: Display the maximum value of car\_components using the max() function

STEP 8: Calculate car\_components\*3 and display

STEP 9: Assign a tuple named more\_car\_components and the values in list are Spoilers, Rims, Alloy Wheels

STEP 10: Concatenate the Tuple Car\_components and more\_car\_components and display

STEP 11: Stop

PROGRAM:

#Components of car

car\_components = ("Engine","Turbo","Doors","Steering","Tyre")

print("Length of tuple: ", len(car\_components))

print("Index of Doors: ", car\_components.index("Doors"))

print("Count of 2: ", car\_components.count("Doors"))

print("Minimum value: ", min(car\_components))

print("Maximum value: ", max(car\_components))

print("Tuple repetition: ", car\_components \* 3)

more\_car\_components = ("Spoilers","Rims","Alloy Wheels")

print("Tuple concatenation: ", car\_components + more\_car\_components)

OUTPUT:

Length of tuple: 5

Index of Doors: 2

Count of 2: 1

Minimum value: Doors

Maximum value: Tyre

Tuple repetition: ('Engine', 'Turbo', 'Doors', 'Steering', 'Tyre', 'Engine', 'Turbo', 'Doors', 'Steering', 'Tyre', 'Engine', 'Turbo', 'Doors', 'Steering', 'Tyre')

Tuple concatenation: ('Engine', 'Turbo', 'Doors', 'Steering', 'Tyre', 'Spoilers', 'Rims', 'Alloy Wheels')

EX.NO.7C 3. REMOVING DUPLICATES (SET)

DATE:5.2.23

AIM:

To Create a set to accept more values and print the elements after removing the duplicate content.

ALGORITHM:

STEP 1: Start

STEP 2: Create a empty list

STEP 3: Check for I in range 0 to 8 if true goto step 3.3 else goto step 4

3.1: Append the value of i

3.2: Append the value 4

3.3: Append the value 5

STEP 4: print list

STEP 5: Assign the list value to x as set

STEP 6: Print x

STEP 7: Stop

PROGRAM:

#Removing duplicates

list=[]

for i in range(0,8):

list.append(i)

list.append(4)

list.append(5)

print("Created list which contains duplicate elements : ",list)

x=set(list)

print("After creating set removes duplicate elements : ",x)

OUTPUT:

Created list which contains duplicate elements : [0, 4, 5, 1, 4, 5, 2, 4, 5, 3, 4, 5, 4, 4, 5, 5, 4, 5, 6, 4, 5, 7, 4, 5]

After creating set removes duplicate elements : {0, 1, 2, 3, 4, 5, 6, 7}

EX.NO.7D 4. SPECIFICATIONS OF LAPTOP(DICTIONARY)

DATE:5.2.23

AIM:

To write a program to print the specification of the laptop using dictionary with its operation.

ALGORITHM:

STEP 1: Start

STEP 2: Create a Dictionary and store in a value My\_laptop.

STEP 3: Assign the key values for Brand:’Lenovo ’ , Model:’IdeaPad slim3i ’ , Processor:’intel core i3’ , RAM: 8 , Storage:’512GB’ , Graphics:’ NVIDIA MX330 ’ , Screen\_size:15.6

STEP 4: Display laptop specification

STEP 5: Display the value in the key Brand

STEP 6: Display the value in the key Model

STEP 7: Display the value in the key Processor

STEP 8: Display the value in the key RAM

STEP 9: Display the value in the key Storage

STEP 10: Display the value in the key Graphics

STEP 11: Display the value in the key Screen\_size

STEP 12 : Stop

PROGRAM:

#Specifications of laptop

My\_laptop={ "Brand":"Lenovo","Model":"Ideapad slim3i","Processor":"Intel Core i3",

"RAM":8,"Storage":"512GB","Graphics":"NVIDIA MX330",

"Screen\_size":15.6 }

print("Laptop Specification : ")

print("Brand : ",My\_laptop["Brand"])

print("Model : ",My\_laptop["Model"])

print("Processor : ",My\_laptop["Processor"])

print("RAM : ",My\_laptop["RAM"])

print("Storage : ",My\_laptop["Storage"])

print("Graphics : ",My\_laptop["Graphics"])

print("Screen Size : ",My\_laptop["Screen\_size"])

OUTPUT:

Laptop Specification :

Brand : Lenovo

Model : Ideapad slim3i

Processor : Intel Core i3

RAM : 8

Storage : 512GB

Graphics : NVIDIA MX330

Screen Size : 15.6

RESULT:

Thus, the programs for the list, tuple, set and dictionaries are given with the result successfully