1. Create a list for Items present in a Library and do all the operations on it.

**Program:**

list1=["Articles","Newspapers","Comics","Journels","Books","Dictionaries"] print("The given list:",'\n',list1)

print("\nLength of the list:",len(list1))

print("\repetition:",'\n',list1\*3)

list1.append("Manuals") print("\nThe list after applying append operation : ",'\n',list1)

list2=("Manuscript”, “Periodicals") list1.extend(list2) print("\nThe list after applying extend operation : ",'\n',list1)

list1.insert(3,"Encyclopedia") print("\nThe list after applying insert operation : ",'\n',list1)

list1.remove("Comics") print("\nThe list after applying remove operation : ",'\n',list1)

list1.pop(4) print("\nThe list after applying pop operation : ",'\n',list1) print('\nIndexing:') print(list1[3]) print(list1[-1])

print('\nSlicing:') print(list1[:4]) print(list1[2:5]) print(list1[0:4:2])

print('\nnegative Indexing:') print(list1[::-1])

**Output:**

The given list:

['Articles', 'Newspapers', 'Comics', 'Journals', 'Books', 'Dictionaries']

Length of the list: 6

Repetition:

['Articles', 'Newspapers', 'Comics', 'Journals', 'Books', 'Dictionaries', 'Articles',

'Newspapers', 'Comics', 'Journals', 'Books', 'Dictionaries', 'Articles', 'Newspapers', 'Comics', 'Journals', 'Books', 'Dictionaries']

The list after applying append operation:

['Articles', 'Newspapers', 'Comics', 'Journals', 'Books', 'Dictionaries', 'Manuals'] The list after applying expend operation:

['Articles', 'Newspapers', 'Comics', 'Journals', 'Books', 'Dictionaries', 'Manuals', 'Manuscript', 'Periodicals']

The list after applying insert operation:

['Articles', 'Newspapers', 'Comics', 'Encyclopedia', 'Journals', 'Books', 'Dictionaries', 'Manuals', 'Manuscript', 'Periodicals']

The list after applying remove operation:

['Articles', 'Newspapers', 'Encyclopedia', 'Journals', 'Books', 'Dictionaries', 'Manuals', 'Manuscript', 'Periodicals']

The list after applying pop operation:

['Articles', 'Newspapers', 'Encyclopedia', 'Journals', 'Dictionaries', 'Manuals', 'Manuscript', 'Periodicals']

Indexing:

Journals

Periodicals

Slicing:

['Articles', 'Newspapers', 'Encyclopedia', 'Journals']

['Encyclopedia', 'Journals', 'Dictionaries']

['Articles', 'Encyclopedia']

negative Indexing:

['Periodicals', 'Manuscript', 'Manuals', 'Dictionaries', 'Journals', 'Encyclopedia', 'Newspapers', 'Articles']

2. Create a tuple for components of a Car and show all the operations.

**Program:**

car=("Engine","Battery","Radiator","Brakes","Air filters","Axle","Supension") print("The given tuple is ",'\n',car)

print("\nThe length of the tuple is",len(car))

print("\nRepetition: ",car[1]\*3) print("\nIndexing: ",car[3]) print("\nSlicing: ",car[2:4])

print("\nEngine in Car ",("Engine" in car)) print("\nBattery not in car ",("Battery" not in car))

**Output:**

The given tuple is

('Engine', 'Battery', 'Radiator', 'Brakes', 'Air filters', 'Axle', 'Supension')

The length of the tuple is 7

Repetition: BatteryBatteryBattery

Indexing: Brakes

Slicing: ('Radiator', 'Brakes')

Engine in Car True

Battery not in car False

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3. Create a set to accept more values and print the elements after removing the duplicate contents.

**Program:**

lst=[] n=int(input("\nEnter the number of elements in a list: ")) print("\n") for i in range(0,n): ele=(input("Enter the value ")) lst.append(ele) print("\nThe created list with duplicate elements: ",lst) s=set(lst) print("\nThe set after removing duplicate elements: ",s)

**Output:**

Enter the number of elements in a list: 6

Enter the value vishwa

Enter the value 22

Enter the value cse

Enter the value b

Enter the value 61

Enter the value vishwa

The created list with duplicate elements: ['vishwa', '22', 'cse', 'b', '61', 'vishwa']

The set after removing duplicate elements: {'b', 'vishwa', '61', '22', 'cse'}

4. Write a program to print the specifications of the laptop using dictionary with its operations.

**Program:**

d= {"Operating system”: “Windows 10",

"Microprocessor”: “Intel(R) Core (TM) i3",

"System memory":"8 GB",

"Graphic device”: “Intel(R) UHD Graphics",

"Memory slot":"8GB Samsung 2667MHz"}

print("The defined Dictionary: ",'\n',d)

print("\nThe length of the dictionary: ",len(d))

print("\nRetrieving the value of \"Operating system\": ",d["Operating system"])

print("\nReassigning the value of \"Operating system\": ") d["Operating system"]="Windows 10 Home Single Language 64-bit" print("The Dictionary elements after reassigning ",d)

print("\nMembership Operator:") print("Audio" in d) print("Audio" not in d)

d["Audio"]="Realtek High Definition Audio" print("\nThe Updated Dictionary Elements: ") print(d)

del d["Memory slot"] print('\nThe Dictionary elements after deleting \"Memory slot\" key:') print(d)

**Output:**

The defined Dictionary:

{'Operating system': 'Windows 10', 'Microprocessor': 'Intel(R) Core(TM) i3', 'System memory': '8 GB', 'Graphic device': 'Intel(R) UHD Graphics', 'Memory slot': '8GB Samsung 2667MHz'}

The length of the dictionary: 5

Retrieving the value of "Operating system": Windows 10

Reassigning the value of "Operating system":

The Dictionary elements after reassigning {'Operating system': 'Windows 10

Home Single Language 64-bit', 'Microprocessor': 'Intel(R) Core(TM) i3', 'System memory': '8 GB', 'Graphic device': 'Intel(R) UHD Graphics', 'Memory slot': '8GB Samsung 2667MHz'}

Membership Operator:

False

True

The Updated Dictionary Elements:

{'Operating system': 'Windows 10 Home Single Language 64-bit',

'Microprocessor': 'Intel(R) Core(TM) i3', 'System memory': '8 GB', 'Graphic device': 'Intel(R) UHD Graphics', 'Memory slot': '8GB Samsung 2667MHz', 'Audio': 'Realtek High Definition Audio'}

The Dictionary elements after deleting "Memory slot" key:

{'Operating system': 'Windows 10 Home Single Language 64-bit',

'Microprocessor': 'Intel(R) Core (TM) i3', 'System memory': '8 GB', 'Graphic device': 'Intel(R) UHD Graphics', 'Audio': 'Realtek High Definition Audio'}

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