**Real time Applications using List, Tuple, set & Dictionaries**

**Ex:7(a) List for library**

**Date: 4/2/23**

**Aim**

To create a list for library items.

**Code**

#list for items in library

list1=['Books','periodicals','magazines','Manuscripts']

print(list1)

print(list1[0])

print(list1[1:4])

print(list1[-1])

print(list1[::-1])

list1.append('Novels')

print(list1)

list1.extend(['Biographies','Newspaper'])

print(list1)

list1.insert(0,'Notes')

print(list1)

list1.remove('Notes')

print(list1)

list1.pop(5)

print(list1)

print((list1)\*3)

**Algorithm**

**Step 1 :** Start

**Step 2 :** A list is initialized and values are passed.

**Step 3 :** Printing list

**Step 4 :** Indexing is performed.

**Step 5 :** Slicing is performed from index number 1 to 4 in the list.

**Step 6:** Reversing of the list.

**Step 7 :** Novels is appended to the list and pinted.

**Step 8 :** The list is extended to add two new elements, Biographies and Newspaper and printed.

**Step 9 :** The a new element is inserted at index position 0 and printed.

**Step 10 :** The newly added element is removed using remove function.

**Step 11 :** The given list is repeated thrice and printed.

**Step 12 :** Stop

**Output**

['Books', 'periodicals', 'magazines', 'Manuscripts']

Books

['periodicals', 'magazines', 'Manuscripts']

Manuscripts

['Manuscripts', 'magazines', 'periodicals', 'Books']

['Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels']

['Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels', 'Biographies', 'Newspaper']

['Notes', 'Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels', 'Biographies', 'Newspaper']

['Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels', 'Biographies', 'Newspaper']

['Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels', 'Newspaper']

['Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels', 'Newspaper', 'Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels', 'Newspaper', 'Books', 'periodicals', 'magazines', 'Manuscripts', 'Novels', 'Newspaper']

**Result**

The given program is performed and verified on python.

**Ex:7(b) Tuple for car components**

**Date: 4/2/23**

**Aim**

To create a tuple for car components.

**Code**

#tuple for car components

car\_comp=("Wheels","Engine","Horn","Lights","Radio","Seat","Brakes","Clutch","Chasis")

print(car\_comp)

car\_comp=car\_comp+("Tail lights","Hood")

print(car\_comp)

print(car\_comp[6])

print(car\_comp[:])

print(car\_comp[-1])

print(car\_comp[2:5])

print((car\_comp)\*3)

**Algorithm**

**Step 1 :** Start

**Step 2 :**  A tuple is initialized and the values are passed and printed.

**Step 3 :**  Concatenation is illustrated by ‘+’ operator and displayed.

**Step 4 :** Indexing is performed and displayed.

**Step 5 :** Reversing the string is demonstrated and displayed.

**Step 6 :** Slicing is demonstrated and displayed.

**Step 7 :** Repetition of the list is performed and displayed.

**Step 8 :** Stop

**Output**

('Wheels', 'Engine', 'Horn', 'Lights', 'Radio', 'Seat', 'Brakes', 'Clutch', 'Chasis')

('Wheels', 'Engine', 'Horn', 'Lights', 'Radio', 'Seat', 'Brakes', 'Clutch', 'Chasis', 'Tail lights', 'Hood')

('Wheels', 'Engine', 'Horn', 'Lights', 'Radio', 'Seat', 'Brakes', 'Clutch', 'Chasis', 'Tail lights', 'Hood')

Brakes

('Wheels', 'Engine', 'Horn', 'Lights', 'Radio', 'Seat', 'Brakes', 'Clutch', 'Chasis', 'Tail lights', 'Hood')

Hood

('Horn', 'Lights', 'Radio')

('Wheels', 'Engine', 'Horn', 'Lights', 'Radio', 'Seat', 'Brakes', 'Clutch', 'Chasis', 'Tail lights', 'Hood', 'Wheels', 'Engine', 'Horn', 'Lights', 'Radio', 'Seat', 'Brakes', 'Clutch', 'Chasis', 'Tail lights', 'Hood', 'Wheels', 'Engine', 'Horn', 'Lights', 'Radio', 'Seat', 'Brakes', 'Clutch', 'Chasis', 'Tail lights', 'Hood')

**Result**

The given program is performed and verified on python.

**Ex:7(c) Remove duplicate of set**

**Date: 4/2/23**

**Aim**

To accept elements and remove duplicate elements.

**Code**

list=[]

for i in range(0,5):

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)

**Algorithm**

**STEP 1:** Start

**STEP 2:** Create a empty list

**STEP 3:** Check for I in range 0 to 5 if true goto step 3.3 else goto step 4

STEP 3.1: Append the value of i

STEP 3.2: Append the value 4

STEP 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

**Output**

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

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

**Result**

The given program is performed and verified on python.

**Ex:7(d) Laptop specifications using dictionary**

**Date: 4/2/23**

**Aim**

To print specifications for laptop using dictionary.

**Code**

dict={}

n=int(input("Enter the number of entries:"))

for i in range(n):

k=input("Enter the key:")

v=input("Enter the value:")

dict[k]=v

print(dict)

print("1.len")

print("2.str")

print("3.key")

print("4.value")

print("5.list")

print("6.items")

print("7.copy")

print("8.clear")

print("9.exit")

while True:

ch=int(input("Enter your choice:"))

if ch==1:

print(len(dict))

if ch==2:

print(str(dict))

if ch==3:

print(dict.keys())

if ch==4:

print(dict.values())

if ch==5:

print(list(dict))

if ch==6:

print(dict.items())

if ch==7:

print(dict.copy())

if ch==8:

print(dict.clear())

if ch==9:

break

**Algortihm**

**Step 1 :** Start

**Step 2 :** Enter the number of entries.

**Step 3 :** For loop is used to accept the value based on the number of entries.

**Step 4 :** After entering the value to the specified key, the dictionary is printed.

**Step 5 :** Enter to your choice to perform dictionary functions and the output is displayed.

**Step 6 :** Stop

**Output**

Enter the number of entries: 5

Enter the key: Name

Enter the value: Asus

Enter the key: Cpu

Enter the value: intel i7

Enter the key: Keyboard

Enter the value: backlit

Enter the key: Screen

Enter the value: Full HD

Enter the key:Storage

Enter the value:1TB

{' Name': ' Asus', ' Cpu': ' intel i7', ' Keyboard': ' backlit', 'Screen ': ' Full HD', 'Storage': '1TB'}

1.len

2.str

3.key

4.value

5.list

6.items

7.copy

8.clear

9.exit

Enter your choice: 1

5

Enter your choice: 4

dict\_values([' Asus', ' intel i7', ' backlit', ' Full HD', '1TB'])

Enter your choice:

**Result**

The given program is performed and verified on python.