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Program 1

AIM : Write a Python Program to create tuples (name, age, address, college) for at least two members and concatenate the tuples and print the concatenated tuples.

PROGRAM :

```
n=int(input(" Enter no of students : "))
t=()
for i in range(n):
    t1=tuple(input("Enter Name , Age, Address, College  : ").split(','))
    print("Tuple ",i+1, " is : ",t1)
    t=t+t1
print(" Concatenamed tuple = ",t)
```

OUTPUT :

```
 Enter no of students : 2
Enter Name , Age, Address, College  : Ravi,20,Vijayawada,LBRCE
Tuple  1  is :  ('Ravi', '20', 'Vijayawada', 'LBRCE')
Enter Name , Age, Address, College  : Rajesh,19,Ongole,PACE
Tuple  2  is :  ('Rajesh', '19', 'Ongole', 'PACE')
 Concatenamed tuple =  ('Ravi', '20', 'Vijayawada', 'LBRCE', 'Rajesh', '19', 'Ongole', 'PACE')
```

Program 2

AIM : Write a Python Program to Swap Two Numbers using Tuple

PROGRAM :

```
a,b=input(" Enter Any two numbers : ").split()
print(" Before swaping a = ",a, " b=",b)
b,a=a,b
print(" After swaping a = ",a, " b=",b)
```

OUTPUT :

```
Enter Any two numbers : 10 20
Before swaping a =  10  b= 20
After swaping a =  20  b= 10
```

Program 3

AIM : Write a Python program to Unpack a tuple into individual objects

PROGRAM:

```
t1=tuple(input("Enter Your Roll No , Name , CGPA  : ").split(','))
rno, name, cgpa = t1
print(" Roll No = ",rno)
print(" Name  = ",name)
print(" CGPA = ",cgpa)
```

OUTPUT:

```
Enter Your Roll No , Name , CGPA  : 100, LBRCE, 99.9
 Roll No =  100
 Name  =   LBRCE
 CGPA =   99.9
```

Program 4

AIM : Write a Python program to test if the given object is a list or tuple or a set.

PROGRAM

```
x=eval(input("enter either a list or set or tuple "))
if type(x) is list:
   print('x is a list')
elif type(x) is set:
   print('x is a set')
elif type(x) is tuple:
   print('x is a tuple')
else:
   print('x is Neither a list or a set or a tuple.')
```

OUTPUT :

```
enter either a list or set or tuple [10,20,30,40,50]
x is a list
```

```
enter either a list or set or tuple ('hello', 'hai', 10)
x is a tuple
```

```
enter either a list or set or tuple {10,20,30}
x is a set
```

```
enter either a list or set or tuple {10:'Hema' , 20:'Latha' , 30:'Reddy'}
x is Neither a list or a set or a tuple.
```

Program 5

AIM : **Write a Python Program to Print the Frequency of Each Character in String**

PROGRAM :

```
a = [('Reddy', 8.7), ('Latha', 6.5), ('Hema', 9.8)]

print("Original list (name, cgpa) tuples : ",a)
sorted_cgpa = sorted(a, key=lambda x: x[1],reverse=True)
print("Sorted List in CGPA order :", sorted_cgpa)
sorted_name = sorted(a)
print("Sorted List in Name order :", sorted_name)
```

OUTPUT :

```
Original list (name, cgpa) tuples :  [('Reddy', 8.7), ('Latha', 6.5), ('Hema', 9.8)]
Sorted List in CGPA order : [('Hema', 9.8), ('Reddy', 8.7), ('Latha', 6.5)]
Sorted List in Name order : [('Hema', 9.8), ('Latha', 6.5), ('Reddy', 8.7)]
```

Program 6

AIM : Python Program to Determine if Two Sets Are Disjoint or Not Without Using Inbuilt-in Functions

PROGRAM :

```
def check_if_disjoint(set1, set2):
   counter = 0
   for x in set1:
      if x in set2:
         counter = counter + 1
   if counter > 0:
     print(" Have Common Elements so not Disjoint ")
```

```
    else:
      print(" are Disjoint ")


set1 = {'Python', 'Java', 'Data Science'}
set2 = {'ML', 'AI', 'R Language', 'Python'}
set3 = {'Data Analytics', 'Robotics', 'Deep Learning'}

print(" Set1 & Set2 : ",end='')
check_if_disjoint(set1, set2)
print(" Set1 & Set3 : ",end='')
check_if_disjoint(set1, set3)
```

OUTPUT :

```
Set1 & Set2 :  Have Common Elements so not Disjoint
Set1 & Set3 :  are Disjoint
```

Program 7

AIM : Write a Program to Find Unique Elements in two Lists

PROGRAM :

```
l1=input(" Enter the elements of List1 :  ").split()
l2=input(" Enter the elements of List2 :  ").split()

set1, set2 = set(l1), set(l2)
unique1 = set1 - set2
unique2 = set2 - set1

print(" Unique Elements in First List are : ",unique1)
print(" Unique Elements in Second List are : ",unique2)
```

OUTPUT :

```
Enter the elements of List1 :  10 20 30 40 50
Enter the elements of List2 :  30 40 50 60 70
Unique Elements in First List are :  {'10', '20'}
Unique Elements in Second List are :  {'60', '70'}
```

Program 8

AIM : Write a python program to **Find common elements in 3 lists using sets**

PROGRAM :

```
l1=input(" Enter the elements of List1 :  ").split()
l2=input(" Enter the elements of List2 :  ").split()
l3=input(" Enter the elements of List3 :  ").split()
s1=set(l1)
s2=set(l2)
s3=set(l3)
res12=s1&s2
res=res12&s3
print("Common Elements in All the lists are : ")
for i in res:
   print(i,end=' ')
```

OUTPUT :

```
 Enter the elements of List1 :  10 20 30 40 50
 Enter the elements of List2 :  10 30 50 60
 Enter the elements of List3 :  20 40 50 60 10
Common Elements in All the lists are :
50 10
```

Program 9

AIM : Write a python program to print different vowels present in a given word and count them.

PROGRAM :

```
w=input("Enter word to search for vowels: ")
s=set(w)
v={'a','e','i','o','u','A','E','I','O','U'}
d=s.intersection(v)
print("The different vowel present in",w,"are",d)
count = sum(w.count(vowel) for vowel in d)
print("No of vowel present in string is : ",count)
```

OUTPUT :

```
Enter word to search for vowels: Hemalatha
The different vowel present in Hemalatha are {'e', 'a'}
No of vowel present in string is :  4
```