

Program to find the union of two list

Logic of program:

1. Create a blank list
2. ask user to enter its size
3. using for loop we take input from use to create lists:
4. take the union of two lists

Create List 1

In [16]:

```
list1=[]  
size1 = int(input("Enter num of element u want in list1 :"))  
for i in range(size1):  
    num1 = int(input("Enter element in list"))  
    list1.append(num1)  
print(list1)
```

```
Enter num of element u want in list1 :3  
Enter element in list4  
Enter element in list5  
Enter element in list6  
[4, 5, 6]
```

In [19]:

```
list2=[]  
size1 = int(input("Enter num of element u want in list2 :"))  
for i in range(size1):  
    num2 = int(input("Enter element in list"))  
    list2.append(num2)  
print(list2)
```

```
Enter num of element u want in list2 :2  
Enter element in list9  
Enter element in list0  
[9, 0]
```

Union of Concatenation of two lists

Method 1:Using + operator

In [20]:

```
final_list = list1 + list2
print("Union of list 1 : {} and list 2 : {} is {}".format(list1,list2,final_list))
```

Union of list 1 : [4, 5, 6, 7, 8, 9, 0, 4, 5] and list 2 : [9, 0] is [4, 5, 6, 7, 8, 9, 0, 4, 5, 9, 0]

Method 2: using iterable method

In [23]:

```
final_list = [*list1,*list2]
print("Union of list 1 : {} and list 2 : {} is {}".format(list1,list2,final_list))
```

Union of list 1 : [4, 5, 6, 7, 8, 9, 0, 4, 5] and list 2 : [9, 0] is [4, 5, 6, 7, 8, 9, 0, 4, 5, 9, 0]

Method3:unique values

In [38]:

```
final_list = list(set(list1+list2))
print("Union of list 1 : {} and list 2 : {} is {}".format(list1,list2,final_list))
```

```
-----
TypeError                                Traceback (most recent call last)
<ipython-input-38-f2acd4cc80d7> in <module>
----> 1 final_list = list(set(list1+list2))
      2 print("Union of list 1 : {} and list 2 : {} is {}".format(list1,lis
t2,final_list))
```

TypeError: 'list' object is not callable

Method 4: Using extend

In [25]:

```
1 list2.extend(list1)
2 print("Union of list 1 : {} and list 2 : {} is {}".format(list1,list2,list2))
```

Union of list 1 : [4, 5, 6, 7, 8, 9, 0, 4, 5] and list 2 : [9, 0, 4, 5, 6, 7, 8, 9, 0, 4, 5] is [9, 0, 4, 5, 6, 7, 8, 9, 0, 4, 5]

Method 5:using itertools.chain() method

In [35]:

```
import itertools
final_list3 = list(itertools.chain(list1,list2))
print("Union of list 1 : {} and list 2 : {} is {} ".format(list1,list2,final_list3))
```

```
-----
TypeError                                 Traceback (most recent call last)
<ipython-input-35-bb7c1a70e8f1> in <module>
      1 import itertools
----> 2 final_list3 = list(itertools.chain(list1,list2))
      3 print("Union of list 1 : {} and list 2 : {} is {} ".format(list1,lis
t2,final_list3))
```

TypeError: 'list' object is not callable

Method 6: Using append function

In [32]:

```
for j in list2:
    list1.append(j)
print("Concatenation of list1 and list2 =",list1)
```

Concatenation of list1 and list2 = [4, 5, 6, 7, 8, 9, 0, 4, 5, 9, 0, 4, 5, 6, 7, 8, 9, 0, 4, 5, 9, 0, 4, 5, 6, 7, 8, 9, 0, 4, 5]

In []: