LAB 2 : Program to find the union of two lists.

Program Logic

1. Input the two list
2. Apply Different methods to concatenate the list.
3. Print the concatennated list

Create Frist List

In [5]:

```
l1 = []
size1 = int(input("Enter the number of element for list1 : "))

for i in range(size1):
    num1 = input("Enter the element of List1 :")
    l1.append(num1)

print("Element of List1 =",l1)
```

```
Enter the number of element for list1 : 4
Enter the element of List1 :56
Enter the element of List1 :85
Enter the element of List1 :23
Enter the element of List1 :64
Element of List1 = ['56', '85', '23', '64']
```

Create Second list

In [6]:

```
l2 = []
size2 = int(input("Enter the number of element for list2 : "))

for i in range(size2):
    num2 = input("Enter the element of List2 :")
    l2.append(num2)

print("Element of List1 =",l2)
```

```
Enter the number of element for list2 : 5
Enter the element of List2 :1
Enter the element of List2 :69
Enter the element of List2 :46
Enter the element of List2 :34
Enter the element of List2 :21
Element of List1 = ['1', '69', '46', '34', '21']
```

Method of Concatenate two list

Method 1 : Using + Operator

In [10]:

```
joined_list1 = l1 + l2
print("List 1 =",l1)
print("List 2 =",l2)
print("Concatenated List =",joined_list1)
```

```
List 1 = ['56', '85', '23', '64']
List 2 = ['1', '69', '46', '34', '21']
Concatenated List = ['56', '85', '23', '64', '1', '69', '46', '34', '21']
```

Method 2 : Using * Operator

In [11]:

```
joined_list2 = [*l1, *l2]
print("The concatenated list of 1 : {} and list 2 {} is {}".format(l1,l2,joined_list2))
```

```
The concatenated list of 1 : ['56', '85', '23', '64'] and list 2 ['1', '6
9', '46', '34', '21'] is ['56', '85', '23', '64', '1', '69', '46', '34',
'21']
```

Method 3 : Union of two list using set()

In [17]:

```
joined_list3 = list(set(l1+l2))
print("The Union list of 1 : {} and list 2 {} is {}".format(l1,l2,joined_list3))
```

```
The Union list of 1 : ['56', '85', '23', '64'] and list 2 ['1', '69', '4
6', '34', '21'] is ['21', '34', '85', '23', '46', '1', '69', '56', '64']
```

Method 4 : Using itertools.chain()

In [26]:

```
import itertools
joined_list4 = list(itertools.chain(l1,l2))
print("The concatenated list of 1 : {} and list 2 : {} is {}".format(l1,l2,joined_list4
))
```

```
The concatenated list of 1 : ['56', '85', '23', '64', '1', '69', '46', '3
4', '21', '56', '85', '23', '64', '1', '69', '46', '34', '21', '56', '85',
'23', '64'] and list 2 : ['1', '69', '46', '34', '21', '56', '85', '23',
'64'] is ['56', '85', '23', '64', '1', '69', '46', '34', '21', '56', '85',
'23', '64', '1', '69', '46', '34', '21', '56', '85', '23', '64', '1', '6
9', '46', '34', '21', '56', '85', '23', '64']
```

Method 5 : Using Extend Method

In [20]:

```
l2.extend(l1)
print("Concatenated list of l1 and l2 =", l2)
```

```
Concatenated list of l1 and l2 = ['1', '69', '46', '34', '21', '56', '85',
'23', '64']
```

Method 6 : Using append ()

In [22]:

```
for i in l2 :
    l1.append(i)
print("Concatenated list of l1 and l2 =", l1)
```

```
Concatenated list of l1 and l2 = ['56', '85', '23', '64', '1', '69', '46',
'34', '21', '56', '85', '23', '64', '1', '69', '46', '34', '21', '56', '8
5', '23', '64']
```