

## Experiment No - 02

Aim: Program to Find the union of two lists

Theory:

Defination:

List: list are used to store multiple items in a single variable lists are one of 4 built in data types in python used to store collection of data, the other 3 are Tuple set and Dictionary all which different quantities and usage list are created square brackets.

Example of list.

creat list

code: 

```
this list = ["apple", "banana", "cherry"]  
print (this == list)
```

output: 

```
["apple", "banana", "cherry"]
```

- append function in list -

Append items: To add an item to the end of the list, use the append() method

Example:

Code: 

```
list = ["apple", "banana", "cherry"]  
list.append("orange")  
print (list)
```

Output: 

```
['apple', 'banana', 'cherry', 'orange']
```

- Extend function in list -

extend is used to append element from another list to the current list, use the extend()

method.

Example :

Add the elements of tropical to the list

```
Code : this_list = ["apple", "banana", "cherry"]
        tropical = ["mango", "pineapple", "papaya"]
        this_list.extend(tropical)
        print(this_list)
```

Output : ["apple", "banana", "cherry", "mango", "pineapple", "papaya"]

- Accept the list from the user and perform Addition on the given list

list 1 = []

n = int(input("Enter size of list 1:"))

for i in range(0, n):

element = int(input("Enter the element to be in list 1:"))

list 1.append(element)

print("list 1 will be", list 1)

list 2 = []

n = int(input("Enter size of list 2:"))

for i in range(0, n):

element = int(input("Enter the element to be in list 2:"))

list 2.append(element)

print("list 2 will be", list 2)

add = list 1 + list 2



print (add)

Enter size of list 1 : 3

Enter the element to be in list 1 : 5

Enter the element to be in list 1 : 6

Enter the element to be in list 1 : 7

list 1 will be [5, 6, 7]

Enter the size of list 2 : 2

Enter the element to be in list 2 : 9

Enter the element to be in list 2 : 8

list 2 will be [9, 8]

[5, 6, 7, 9, 8]

#### • Union of two list :

It means we must take all the element from list A and list B (there can be more than two lists) and put them inside a single next list. There are various orders in which we can combine the lists.

Example - we can maintain the repetition and order, or remove the repeated elements in the final list and go on.

Input

list 1 = [23, 15, 2, 14, 16, 20, 52]

list 2 = [2, 48, 15, 12, 26, 32, 47, 54]

Output :

[23, 15, 2, 14, 16, 20, 52, 2, 48, 15, 12, 26, 32, 47, 54]

- Set union() method

The union() method returns a set that contains all items from the original set, and all items from specified set(s).

Syntax:

Set.union(set1, set2...)

e.g

Code :  $x = \{ 'a', 'b', 'c' \}$

$y = \{ 'f', 'd', 'a' \}$

$z = \{ 'c', 'd', 'e' \}$

result = x.union(y, z)

print(result)

Output :  $\{ 'a', 'f', 'b', 'e', 'c', 'd' \}$

## Conclusion

In this practical lab, we have shown the union of two list. To show the union of two list uses two list as list 1 & list 2. Among the list 1 & list 2.

Among the list 1 & list 2 we have to write the union of two list.



```
In [1]: #programme 1
list1=[1,2,3,4,5,6]
list2=[2,3,4,5,6,7,8]
list1.extend(list2)
print(list1)

[1, 2, 3, 4, 5, 6, 2, 3, 4, 5, 6, 7, 8]
```

```
In [12]: list1=[1,2,3,4]
list2=["hi","bye","die"]
print(list1+list2)

[1, 2, 3, 4, 'hi', 'bye', 'die']
```

```
In [13]: list1=[1,2,3,4]
list1.append(5)
print(list1)

[1, 2, 3, 4, 5]
```

```
In [2]: #programme 2
list1=[1,2,3,4,5,6]
list2=[2,3,4,5,6,7,8]
print(list1)
print(list2)
for element in list1:
    if element not in list2:
        list2.append(element)
        print("Union of two list is:",list2)

[1, 2, 3, 4, 5, 6]
[2, 3, 4, 5, 6, 7, 8]
Union of two list is: [2, 3, 4, 5, 6, 7, 8, 1]
```

```
In [3]: #programme 3
a=[]
b=[]
n = int(input("Enter number of elements for list1 : "))
for i in range(0, n):
    ele=int(input())
    a.append(ele)
m = int(input("Enter number of elements for list2 : "))
for j in range(0,m):
    elem=int(input())
    b.append(elem)
print(a)
print(b)

for element in a:
    if element not in b:
        b.append(element)

print("Union of two list is:",b)
```

```
Enter number of elements for list1 : 2
1
2
Enter number of elements for list2 : 1
1
[1, 2]
[1]
Union of two list is: [1, 2]
```

```
In [11]: #programme 4
list1= {2, 4, 5, 6}
list2= {4, 6, 7, 8}
result=list1.union(list2)
print(list(result))

[2, 4, 5, 6, 7, 8]
```

AKD