Lab2: Program to find union of two lists

Methods to concatanate two lists

In [34]:
```
list1 = []
size1 = int(input("Enter the size of first list:"))
for i in range(size1):
    num1 = int(input("Enter number:"))
    list1.append(num1)
print("List 1:", list1)
```

```
List 1: [1, 3, 5, 7, 9]
```

In [37]:
```
list2 = []
size2 = int(input("Enter the size of second list:"))
for i in range(size2):
    num2 = int(input("Enter number:"))
    list2.append(num2)
print("List 2:", list2)
```

```
List 2: [0, 2, 4, 6, 8]
```

Method 1: Using '+' operator

In [38]:
```
union_list = list1 + list2
print("List 1:", list1)
print("List 2:", list2)
print("Concatenated list: ", union_list)
```

```
List 1: [1, 3, 5, 7, 9]
List 2: [0, 2, 4, 6, 8]
Concatenated list:  [1, 3, 5, 7, 9, 0, 2, 4, 6, 8]
```

Method 2: Using '*' operator

In [39]:
```
union_list = [*list1, *list2]
print("List 1:", list1)
print("List 2:", list2)
print("Concatenated list: ", union_list)
```

```
List 1: [1, 3, 5, 7, 9]
List 2: [0, 2, 4, 6, 8]
Concatenated list:  [1, 3, 5, 7, 9, 0, 2, 4, 6, 8]
```

Method 3: Using set() method

In [40]:
```
union_list = list(set(list1+list2))
print("List 1:", list1)
print("List 2:", list2)
print("Concatenated list: ", union_list)
```

```
List 1: [1, 3, 5, 7, 9]
List 2: [0, 2, 4, 6, 8]
Concatenated list:  [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

Method 4: Using itertools.chain()

In [41]:
```
import itertools
union_list = list(itertools.chain(list1, list2))
```

```
print("List 1:", list1)
print("List 2:", list2)
print("Concatenated list: ", union_list)
```

```
List 1: [1, 3, 5, 7, 9]
List 2: [0, 2, 4, 6, 8]
Concatenated list:  [1, 3, 5, 7, 9, 0, 2, 4, 6, 8]
```

Method 5: Using extend() Method

In [42]:
```
list1.extend(list2)
print("Concatenated list: ", list1)
```

```
Concatenated list:  [1, 3, 5, 7, 9, 0, 2, 4, 6, 8]
```

Method6: Using append()

In [43]:
```
for i in list2:
    list1.append(i)
print("Concatenated list: ", list1)
```

```
Concatenated list:  [1, 3, 5, 7, 9, 0, 2, 4, 6, 8, 0, 2, 4, 6, 8]
```