Darshan UNIVERSITY
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Python Programming - 2304CS401

Lab - 7

Understand Working of set

01) Write a program to create a set using the list of elements and find its size

In [1]:
```
elements = input("Enter elements separated by spaces: ").split()

set_data = set(elements)

print("Set:", set_data)
print("Size of the set:", len(set_data))
```

```
Set: {'30', '50', '40', '10', '20'}
Size of the set: 5
```

02) WWrite a program to find the maximum and minimum elements from a given set.

In [2]:
```
elements = input("Enter elements separated by spaces (numbers): ").split()
set_data = {int(x) for x in elements}  # Convert to a set of integers


max_element = max(set_data)
min_element = min(set_data)

print(set_data)
print("Maximum element:", max_element)
print("Minimum element:", min_element)
```

```
{40, 10, 50, 20, 30}
Maximum element: 50
Minimum element: 10
```

03) Write a program to remove an element from a set given by the user

In [5]:
```
elements = input("Enter elements separated by spaces: ").split()
set_data = set(elements)

print(set_data)
element_to_remove = input("Enter the element to remove: ")


if element_to_remove in set_data:
    set_data.remove(element_to_remove)
    print("Set after removal:", set_data)
else:
    print("Element not found in the set.")
```

```
{'30', '50', '40', '10', '20'}
Set after removal: {'50', '40', '10', '20'}
```

04) Write a program to convert a given set into a tuple and a tuple into a set.

In [6]:
```
elements = input("Enter elements separated by spaces: ").split()
set_data = set(elements)


tuple_data = tuple(set_data)
print("Tuple from the set:", tuple_data)


tuple_elements = input("Enter elements for a tuple separated by spaces: ").
tuple_data = tuple(tuple_elements)


set_from_tuple = set(tuple_data)
print("Set from the tuple:", set_from_tuple)
```

```
Tuple from the set: ('30', '50', '40', '10', '20')
Set from the tuple: {'11', '33', '22'}
```

05) Write a program to perform union, intersection, difference, and symmetric difference operations for given two sets.

In [7]:
```
elements1 = input("Enter elements for the first set separated by spaces: ")
set1 = set(elements1)


elements2 = input("Enter elements for the second set separated by spaces: "
set2 = set(elements2)


union_result = set1 | set2
intersection_result = set1 & set2
difference_result = set1 - set2
symmetric_difference_result = set1 ^ set2


print("Union of the sets:", union_result)
print("Intersection of the sets:", intersection_result)
print("Difference (set1 - set2):", difference_result)
print("Symmetric difference of the sets:", symmetric_difference_result)
```

```
Union of the sets: {'45', '66', '30', '50', '88', '40', '10', '20'}
Intersection of the sets: {'30', '50'}
Difference (set1 - set2): {'10', '20', '40'}
Symmetric difference of the sets: {'45', '88', '40', '66', '10', '20'}
```