In [2]:
```python
    #LIST-[]
my_list=[2,4,5,68,2]
print(my_list)
# Adding elements to the list using append()
my_list.append(8)
print("After adding elements:", my_list)
  # Modifying an element in the list
my_list[2] = 30
print("After modifying index 2:", my_list)
 # Removing an element from the list by value
my_list.remove(4)
print("After removing element 4:", my_list)
# Removing an element from the list by index
del my_list[0]
print("After removing first element:", my_list)
# Adding elements at specific positions using insert()
my_list.insert(1, 10)
print("After inserting 10 at index 1:", my_list)
```

```
[2, 4, 5, 68, 2]
After adding elements: [2, 4, 5, 68, 2, 8]
After modifying index 2: [2, 4, 30, 68, 2, 8]
After removing element 4: [2, 30, 68, 2, 8]
After removing first element: [30, 68, 2, 8]
After inserting 10 at index 1: [30, 10, 68, 2, 8]
```

In [3]:
```python
        #dictionary-{}
my_dict={1:'abc',22:'sudheer','pythonlife':1}
print(my_dict)
 # Adding elements to the dictionary
my_dict['a'] = 1
my_dict['b'] = 2
my_dict['c'] = 3
print("After adding elements:", my_dict)
# Modifying an element in the dictionary
my_dict['b'] = 20
print("After modifying 'b':", my_dict)
#Removing an element from the dictionary by key
del my_dict['a']
print("After removing 'a':", my_dict)
# Adding a new element using update()
my_dict.update({'d': 4})
print("After adding 'd':", my_dict)
```

```
{1: 'abc', 22: 'sudheer', 'pythonlife': 1}
After adding elements: {1: 'abc', 22: 'sudheer', 'pythonlife': 1, 'a': 1, 'b': 2,
'c': 3}
After modifying 'b': {1: 'abc', 22: 'sudheer', 'pythonlife': 1, 'a': 1, 'b': 20,
'c': 3}
After removing 'a': {1: 'abc', 22: 'sudheer', 'pythonlife': 1, 'b': 20, 'c': 3}
After adding 'd': {1: 'abc', 22: 'sudheer', 'pythonlife': 1, 'b': 20, 'c': 3,
'd': 4}
```

In [4]:
```python
    #set-{}
my_set={2,4,5,8,5,4,2,4}
print(my_set)
# Adding elements to the set using add()
my_set.add(1)
my_set.add(9)
```

```python
my_set.add(10)
print("After adding elements:", my_set)
# Trying to add duplicate element (no change in set)
my_set.add(2)
print("Trying to add 2 again:", my_set)
# Removing an element from the set
my_set.remove(2)
print("After removing 2:", my_set)
# Creating another set
other_set = {3, 4, 5}
print(other_set, my_set)
# Performing union of two sets using |
union_set = my_set | other_set
print("Union of sets:", union_set)
# Performing intersection of two sets using &
intersection_set = my_set & other_set
print("Intersection of sets:", intersection_set)
```

```
{8, 2, 4, 5}
After adding elements: {1, 2, 4, 5, 8, 9, 10}
Trying to add 2 again: {1, 2, 4, 5, 8, 9, 10}
After removing 2: {1, 4, 5, 8, 9, 10}
{3, 4, 5} {1, 4, 5, 8, 9, 10}
Union of sets: {1, 3, 4, 5, 8, 9, 10}
Intersection of sets: {4, 5}
```

In [ ]: