```python
#LIST
#Creation of list
list1=[1,2,3,4]
print(list1[0])
print(list1[1])

list1.append(7)  #adding an element to the list
print(list1)

list1.remove(2)  #removing an element from the list
print(list1)

list1[0]=12      #modifying an element in the list
print(list1)

#List concatenation using '+' operation
#adding two lists
list2=['Red','Green']
list3=[10,20,30]

list2=list2+['Blue']
print(list2)

list4=['Hello','World']+['Python','Programming']
print(list4)

#Repetition operation in lists
list5=[100,200,300,400]
print(list5*2)

#extend() function
list1.extend(list2)
print(list1)

#insert() function
names=['Alice','Betty','Claire','Deepak']
names.insert(3,'Jack')
print(names)

#len() function
print(len(list1))

#reverse() function
names=['Alice','Betty','Claire','Deepak']
names.reverse()
print(names)
```

```
1
2
[1, 2, 3, 4, 7]
[1, 3, 4, 7]
```

```
[12, 3, 4, 7]
['Red', 'Green', 'Blue']
['Hello', 'World', 'Python', 'Programming']
[100, 200, 300, 400, 100, 200, 300, 400]
[12, 3, 4, 7, 'Red', 'Green', 'Blue']
['Alice', 'Betty', 'Claire', 'Jack', 'Deepak']
7
['Deepak', 'Claire', 'Betty', 'Alice']
```

```python
#DICTIONARY
# Creation of dictionary
dict1 = {'a': 1, 'b': 2, 'c': 3}
print(dict1['a'])  # Accessing value using key

dict1['d'] = 7  # Adding a new key-value pair
print(dict1)

del dict1['b']  # Removing a key-value pair
print(dict1)

dict1['a'] = 12  # Modifying the value associated with a key
print(dict1)

# Dictionary concatenation using update() method
dict2 = {'x': 'Red', 'y': 'Green'}
dict3 = {'m': 10, 'n': 20, 'o': 30}

dict2.update({'z': 'Blue'})  # Adding a new key-value pair
print(dict2)

dict4 = {'p': 'Hello', 'q': 'World'}
dict4.update({'r': 'Python', 's': 'Programming'})
print(dict4)

# merge() function
dict1.update(dict2)
print(dict1)

# len() function
print(len(dict1))
```

```
1
{'a': 1, 'b': 2, 'c': 3, 'd': 7}
{'a': 1, 'c': 3, 'd': 7}
{'a': 12, 'c': 3, 'd': 7}
{'x': 'Red', 'y': 'Green', 'z': 'Blue'}
{'p': 'Hello', 'q': 'World', 'r': 'Python', 's': 'Programming'}
{'a': 12, 'c': 3, 'd': 7, 'x': 'Red', 'y': 'Green', 'z': 'Blue'}
6
```

```python
# Creation of set
set1 = {1, 2, 3, 4}
print(set1)  # Sets are unordered, so the order of elements may vary

# Adding elements to a set
set1.add(7)
print(set1)

# Removing elements from a set
set1.remove(2)
print(set1)

# Set union using '|' operator or union() method
set2 = {'Red', 'Green'}
set3 = {10, 20, 30}

set2 = set2 | {'Blue'}  # Adding an element to the set
print(set2)

set4 = {'Hello', 'World'} | {'Python', 'Programming'}
print(set4)

# merge() function (similar to extend() for lists)
set1.update(set2)
print(set1)

# len() function
print(len(set1))
```

```
{1, 2, 3, 4}
{1, 2, 3, 4, 7}
{1, 3, 4, 7}
{'Green', 'Red', 'Blue'}
{'Programming', 'World', 'Hello', 'Python'}
{1, 'Green', 3, 4, 7, 'Blue', 'Red'}
7
```