In [8]:
```
list= [1,11,19,87]
print (list) #prints the list with items.
```

```
[1, 11, 19, 87]
```

In [10]:
```
print (list[0]) #prints 1st item
print (list[2]) #prints 3rd item
print (list[-1]) #prints last item
```

```
1
19
87
```

In [13]:
```
print(list[0:3]) #prints first 3 items
print(list[1:3]) #prints 2nd and 3rd item
```

```
[1, 11, 19]
[11, 19]
```

In [18]:
```
list2 = [22,12,92]  #created a second list.
list3 = list+list2 #concatenation of lists
print (list3) #prints the concatenated list
```

```
[1, 11, 19, 87, 22, 12, 92]
```

In [19]:
```
list3.append(17) #add a new number at the end of the list
```

In [20]:
```
print(list3)
```

```
[1, 11, 19, 87, 22, 12, 92, 17]
```

In [21]:
```
list3.insert(0,29) #insert the number(29) at the first index and shift the list to right
print(list3)
```

```
[29, 1, 11, 19, 87, 22, 12, 92, 17]
```

In [22]:
```
list3.pop() #removes the last number from list
print (list3)
```

```
[29, 1, 11, 19, 87, 22, 12, 92]
```

In [23]:
```
list3.pop(3) #removes the 3rd index number ie 19
print (list3)
```

```
[29, 1, 11, 87, 22, 12, 92]
```

In [24]:
```
list3.remove(87) #removes perticular value for eg 87 in this case
print (list3)
```

```
[29, 1, 11, 22, 12, 92]
```

In [37]:
```
print (list3)
print (type(list3)) #data type
print (len(list3))
list3[0]="aaa" #replaces the 1st element with new element
print (list3)
```

```
[29, 1, 11, 22, 12, 92]
<class 'list'>
6
['aaa', 1, 11, 22, 12, 92]
```

In [29]:
```
my_list=["Hello", "World", 1987]
list_list=[["Hello", "World", 1987],[1,2]] #list of list
print (my_list)
print (list_list)
```

```
['Hello', 'World', 1987]
[['Hello', 'World', 1987], [1, 2]]
```

In [36]:
```
print (len(list_list))
print (len(my_list))
print(list_list[0]) #prints 1st list of list
print(list_list[1]) #prints 2nd list of list
print(list_list[0][0]) #print 1st element of 1st list from list of list
print(list_list[1][1]) #print 2nd element from 2nd list
```

```
2
3
['Hello', 'World', 1987]
[1, 2]
Hello
2
```

In [17]:
```
tup = ("ari","piy",87,92) #its a tupple. created with paranthesis (). datas can't be changed
print (tup[2])
print (tup)
tupX = (2,88,6,99)
sortTup = sorted(tupX) #sort the tupple in ascending order.
print(sortTup)
```

```
87
('ari', 'piy', 87, 92)
[2, 6, 88, 99]
```

In [18]:
```
listX = [1,4,66,2,88,9]
sortedListX = sorted(listX) #sort the list in ascending order.

print("Original list :\t",listX)
print("Sorted list : \t", sortedListX)

print(listX.sort()) # This also sort the list but doesnot return the value

print("Original list :\t", listX)

decListX = sorted(listX, reverse=True) #sorted the list in descending order.

print("DecendingList: \t", decListX)
```

```
Original list :  [1, 4, 66, 2, 88, 9]
Sorted list :    [1, 2, 4, 9, 66, 88]
None
Original list :  [1, 2, 4, 9, 66, 88]
DecendingList:   [88, 66, 9, 4, 2, 1]
```

In [30]:
```
fname = ["aritra", "piyali"]
lname = ["sarkar", "mondal"]

name = zip(fname,lname) #takes equal lenghth lists and returns a list of tupples
print(fname+lname)
x = list(name)
print(x)
```

```
['aritra', 'piyali', 'sarkar', 'mondal']
[('aritra', 'sarkar'), ('piyali', 'mondal')]
```