Lists

A list is a data structure in Python that is mutable, or Changeable, ordered sequence of elements. Each elements or value that is inside of a list is called an item. Just as strings are defined as characters between quotes, lists are defined by having values between square bracket.

Can contains different data types,
Mutable,
Indexing is there,
Duplicate elements are allowed.

```
In [1]:  lst_example=[]
```

```
In [2]:  type(lst_example)
```

```
Out[2]:  list
```

```
In [3]:  lst=list()
```

```
In [4]:  type(lst)
```

```
Out[4]:  list
```

```
In [5]:  lst=['Maths','Che',17,90,40]
```

```
In [6]:  len(lst)
```

```
Out[6]:  5
```

```
In [7]:  lst.append('Mishra')        #append is used to add items to the list at the end
```

```
In [8]:  print(lst)

         ['Maths', 'Che', 17, 90, 40, 'Mishra']
```

```
In [9]:  lst.append(["Shantanu","Mishra"])          # It will create a nested list
```

```
In [10]:  print(lst)

          ['Maths', 'Che', 17, 90, 40, 'Mishra', ['Shantanu', 'Mishra']]
```

```
In [11]:  lst[2]                    #Indexing in list starts from zero
```

```
Out[11]:  17
```

```
In [12]:  lst[4]
```

```
Out[12]:  40
```

```
In [13]:   lst.insert(5,'Shantanu')              #insert is used to add item at the specific inde
```

```
In [14]:   lst
```

```
Out[14]:   ['Maths', 'Che', 17, 90, 40, 'Shantanu', 'Mishra', ['Shantanu', 'Mishra']]
```

```
In [15]:   lst = ['Maths', 'Che', 17, 90, 40, 'Shantanu', 'Mishra']
```

```
In [16]:   lst[:]
```

```
Out[16]:   ['Maths', 'Che', 17, 90, 40, 'Shantanu', 'Mishra']
```

```
In [17]:   lst[2:]
```

```
Out[17]:   [17, 90, 40, 'Shantanu', 'Mishra']
```

```
In [18]:   lst[2:5]
```

```
Out[18]:   [17, 90, 40]
```

```
In [19]:   lst1=[1,2,3,4,5,6]
```

```
In [20]:   lst1.extend([8,9])      #extend just adds as seprate element rather than creating a ne
```

```
In [23]:   lst1
```

```
Out[23]:   [1, 2, 3, 4, 5, 6, 8, 9]
```

```
In [24]:   sum(lst1)                         #return sum
```

```
Out[24]:   38
```

```
In [26]:   lst1*5              # list got multiplied 5 times
```

Out[26]:
```
[1,
 2,
 3,
 4,
 5,
 6,
 8,
 9,
 1,
 2,
 3,
 4,
 5,
 6,
 8,
 9,
 1,
 2,
 3,
 4,
 5,
 6,
 8,
 9,
 1,
 2,
 3,
 4,
 5,
 6,
 8,
 9,
 1,
 2,
 3,
 4,
 5,
 6,
 8,
 9]
```

In [29]:
```python
list = [1,2,3,4,'Shan','Mishra',45]
list.pop()                       #By default it will remove the last element
```

Out[29]: 45

In [30]:
```python
list.pop(3)                      #removes element at index 3
```

Out[30]: 4

In [31]:
```python
lst= [1,2,3,3,4,5,5,5,68,9]
```

In [32]:
```python
lst.count(5)                     #Returns the no of times 5 occured
```

Out[32]: 3

In [34]:
```python
lst.index(1,0,4)                 # .index(value,start index,end index) and it returns at
```

Out[34]: 0

In [35]: `min(lst)`   *#returns the minimum value in list*

Out[35]: 1

In [36]: `max(lst)`   *#returns the max value in list*

Out[36]: 68