

```
In [2]: # blank list  
list1 = []
```

```
In [4]: print(list1)  
print(len(list1))
```

```
[]  
0
```

```
In [9]: my_list = [1,2,3,"John","Bob",20.5,[3,4,5,6]]
```

```
In [10]: my_list
```

```
Out[10]: [1, 2, 3, 'John', 'Bob', 20.5, [3, 4, 5, 6]]
```

Access element from a list

```
In [16]: my_list = [1,2,3,"John","Bob",20.5,[3,4,5,6]]
```

```
# Index -->0,1,2,3  
# count(Len) --> 1,
```

```
print(my_list[0])  
print(my_list[3])  
print(my_list[6])  
print(my_list[-1])
```

```
1  
John  
[3, 4, 5, 6]  
[3, 4, 5, 6]
```

```
In [19]: print(my_list[-1][2])
```

```
5
```

```
In [20]: print(my_list[-2])
```

```
20.5
```

How to slice list in python

```
In [ ]: list[start:stop:step]
#####
list[:]
list[start:]
list[:stop]
list[start:stop]
```

```
In [22]: my_list2 = ["p","y","t","h","o","n"]
my_list2[0:2] #--> "p","y"
```

```
Out[22]: ['p', 'y']
```

```
In [23]: my_list2[:2]
```

```
Out[23]: ['p', 'y']
```

```
In [24]: my_list2[:2:1]
```

```
Out[24]: ['p', 'y']
```

```
In [25]: my_list2[:]
```

```
Out[25]: ['p', 'y', 't', 'h', 'o', 'n']
```

List Operations

```
In [33]: odd = [2,4,6,8]

## add the values
odd.append(5)
print(odd)

# update the values
odd[0] = 1
print(odd)

odd.extend([6,7,8])
print(odd)
```

```
[2, 4, 6, 8, 5]
[1, 4, 6, 8, 5]
[1, 4, 6, 8, 5, 6, 7, 8]
```

```
In [41]: my_list1 = [1,3,5]
my_list2 = [2,4,6]

print(my_list1 + my_list2)
my_list1.extend(my_list2)
print(my_list1)

print(my_list1 * 4)
print(["re" ] * 4)
```

```
[1, 3, 5, 2, 4, 6]
[1, 3, 5, 2, 4, 6]
[1, 3, 5, 2, 4, 6, 1, 3, 5, 2, 4, 6, 1, 3, 5, 2, 4, 6, 1, 3, 5, 2, 4, 6]
['re', 're', 're', 're']
```

```
In [51]: my_list3 = [1,3]
my_list3.insert(1,7) # atleast put 2 arguments
print(my_list3)

my_list3.insert(2,10)
print(my_list3)
```

```
[1, 7, 3]
[1, 7, 10, 3]
```

Remove/delete

```
In [55]: del my_list1[0]
print(my_list1)
```

```
[2, 4, 6]
```

```
In [56]: del my_list1
```

```
In [57]: print(my_list1)
```

```
-----
NameError                                Traceback (most recent call last)
Cell In[57], line 1
----> 1 print(my_list1)

NameError: name 'my_list1' is not defined
```

```
In [64]: my_list4 = [1, 7, 10, 3]
my_list4.remove(1)
print(my_list4)
my_list4.append(1)

print(my_list4)
my_list4.pop(0)
```

```
[7, 10, 3]
[7, 10, 3, 1]
```

Out[64]: 7

```
In [62]: my_list4
```

Out[62]: [10, 3, 1]

Built-in List Function

```
In [69]: #all
l = [1,3,4,5]
all(l)
```

Out[69]: True

```
In [73]: l = [1,2,3,56,2,4,6,7,89,10,33,"john"]
all(l)
```

Out[73]: True

```
In [77]: l = [1,2,3,56,2,4,6,7,89,10,33]
```

```
In [78]: max(l)
```

Out[78]: 89

```
In [79]: min(l)
```

Out[79]: 1

```
In [80]: sorted(l)
```

Out[80]: [1, 2, 2, 3, 4, 6, 7, 10, 33, 56, 89]

```
In [82]: len(l)
```

Out[82]: 11

```
In [84]: m = l.copy()
```

```
In [85]: m
```

```
Out[85]: [1, 2, 3, 56, 2, 4, 6, 7, 89, 10, 33]
```

```
In [ ]:
```