

List

- Python offers a range of compound datatypes often referred to as sequences.
- List is one of the most frequently used and very versatile datatype used in Python.
- Lists are just like the arrays, declared in other languages.
- Lists need not be homogeneous always which makes it a most powerful tool in Python.
- A single list may contain DataTypes like Integers, Strings, as well as Objects.
- Lists are also very useful for implementing stacks and queues.
- Lists are mutable, and hence, they can be altered even after their creation.

List is considered as Array which contains Heterogenous data

- Heterogeneous
- Ordered
- Indexed
- Mutable
- Allows Duplicate

Consider below application which demonstrates concept of List

```
print("---- Marvellous Infosystems by Piyush Khairnar----")

print("Demonstration of List")

batches = ["PPA", "LB", "Angular", "Python"]

print(batches)
print(batches[0])
print(batches[1])
print(batches[-1])
print(batches[1:])
print(batches[:3])

# we can store heterogenous data
data1 = [11, "Marvellous", 3.14]
print(data1)

data2 = [21, "Infosystems", 6.10]

# We can create list of list

combined = [data1, data2]
print(combined)

# There are multiple methods that we can use to manipulate list

batches.append("MEAN")
print(batches)

batches.insert(2, "LSP")
print(batches)
```

```
batches.remove("LSP")  
print(batches)
```

```
batches.pop()  
print(batches)
```

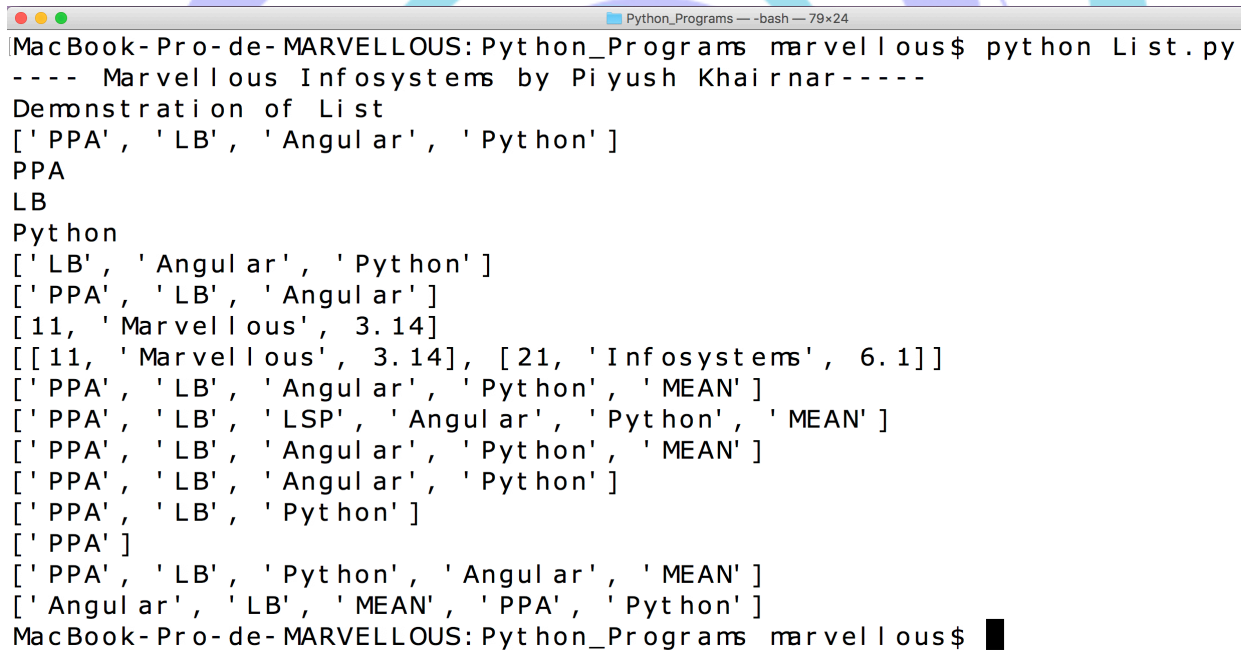
```
batches.pop(2)  
print(batches)
```

```
del batches[1:]  
print(batches)
```

```
batches.extend(["LB","Python","Angular","MEAN"])  
print(batches)
```

```
batches.sort()  
print(batches)
```

Output of above application



```
MacBook-Pro-de-MARVELLOUS: Python_Programs marvellous$ python List.py  
---- Marvellous Infosystems by Piyush Khairnar ----  
Demonstration of List  
['PPA', 'LB', 'Angular', 'Python']  
PPA  
LB  
Python  
['LB', 'Angular', 'Python']  
['PPA', 'LB', 'Angular']  
[11, 'Marvellous', 3.14]  
[[11, 'Marvellous', 3.14], [21, 'Infosystems', 6.1]]  
['PPA', 'LB', 'Angular', 'Python', 'MEAN']  
['PPA', 'LB', 'LSP', 'Angular', 'Python', 'MEAN']  
['PPA', 'LB', 'Angular', 'Python', 'MEAN']  
['PPA', 'LB', 'Angular', 'Python']  
['PPA', 'LB', 'Python']  
['PPA']  
['PPA', 'LB', 'Python', 'Angular', 'MEAN']  
['Angular', 'LB', 'MEAN', 'PPA', 'Python']  
MacBook-Pro-de-MARVELLOUS: Python_Programs marvellous$
```