List

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6. Delete :--> Delete (clear , pop , remove)

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7. operations

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8. Functions:--> len,min,max,sorted

1. List Vs Array

In [ ]:
```
"""

s1 = "Vishal"
s2 = "Ajay"
s3 = "Nita"

Array:--->

s = ["Vishal","Ajay","Nita"]

Index:  0       1      2

print(s[1]) = Ajay

Array :--> Array Can store data of similar Data type  (Homogeouns) | Array are fa

List :--> List can store data of different Data Type (Heterogeouns) | List are mo


"""
```

Create

In [4]:
```
#empty List:

l1 = []

print("Data Type of l1 : " , type(l1))


#Homogeouns List:

l2 = [25,18,19,20,23,28] #int

print("Homogeouns List : " , l2)
```

In [4]:
```
#empty List:

l1 = []

print("Data Type of l1 : " , type(l1))


#Homogeouns List:

l2 = [25,18,19,20,23,28] #int

print("Homogeouns List : " , l2)


#Hetrogeouns List :

l3 = ["Vishal",28,"Data Analysis", 25.5 , "M"] #string / int / float

print("Hetrogeuns List : " , l3)


#Mult-Dim

l4 = [1,2,3,[4,5]] #2D list

print("2D List : " , l4)
```

```
Data Type of l1 :  <class 'list'>
Homogeouns List :  [25, 18, 19, 20, 23, 28]
Hetrogeuns List :  ['Vishal', 28, 'Data Analysis', 25.5, 'M']
2D List :  [1, 2, 3, [4, 5]]
```

Access

In [11]:
```
l2 = [25,18,19,20,23,28]
#      0  1  2  3  4  5
#     -6 -5 -4 -3 -2 -1


print("23 Number using Postive Index : " , l2[4])

print("19 Number using Negative Index : " , l2[-4])


l3 = ["Vishal",28,"Data Analysis", 25.5 , "M"]
```

In [11]:
```
l2 = [25,18,19,20,23,28]
#      0  1  2  3  4  5
#     -6 -5 -4 -3 -2 -1


print("23 Number using Postive Index : " , l2[4])

print("19 Number using Negative Index : " , l2[-4])


l3 = ["Vishal",28,"Data Analysis", 25.5 , "M"]


print("Student Name : " , l3[0] ," Student Gender: " , l3[-1])


l4 = [1, 2, 3, [4 , 5]]
#     0  1  2     3
#               0   1

print("At index 3 value is : " , l4[3])

print("How we Can Print 5 from list l4 : " , l4[3][1])

print()
l5 = [[1,2],[3,4],[5,6]]

print(l5[1])
print(l5[0][-2])
```

```
23 Number using Postive Index :  23
19 Number using Negative Index :  19
Student Name :  Vishal  Student Gender:  M
At index 3 value is :  [4, 5]
How we Can Print 5 from list l4 :  5

[3, 4]
1
```

Edit

In [12]:
```
s1 = "Vishal"

s1[0] = "B"
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[12], line 3
      1 s1 = "Vishal"
----> 3 s1[0] = "B"

TypeError: 'str' object does not support item assignment
```

In [15]:
```
#List is a Mutable Data Type

l1 = [25,23,26,27,21,28]

l1[0] = 30

print("L1 after changing Value : " , l1)


l3 = ["Vishal",28,"Data Analysis", 25.5 , "M"]

l3[0:3]=["Anuja",27,"Data Science"]
```

In [15]:
```
#List is a Mutable Data Type

l1 = [25,23,26,27,21,28]

l1[0] = 30

print("L1 after changing Value : " , l1)


l3 = ["Vishal",28,"Data Analysis", 25.5 , "M"]

l3[0:3]=["Anuja",27,"Data Science"]

print(l3)


l5 = [[1,2],[3,4],[5,6]]

l5[2][0] = 15

print(l5)
```

```
L1 after changing Value :  [30, 23, 26, 27, 21, 28]
['Anuja', 27, 'Data Science', 25.5, 'M']
[[1, 2], [3, 4], [15, 6]]
```

Add :--> Add (append , extend , insert)

In [21]:
```
s = ["Vishal","Trupti","Akashy","Anuja","Sainath"]

print("Before Using Append : " , s)

s.append("Abhijeet") # single data at a time

print("After Using Append : " , s)

print()

s.extend(["Sidharth","Apurva"]) # extend will add Multiple Data At a Time

print("After Using Extend : " , s)

print()

s.insert(0,"Ajay") #(index,value)
print("After Using Insert : " , s)
```

```
Before Using Append :  ['Vishal', 'Trupti', 'Akashy', 'Anuja', 'Sainath']
After Using Append :  ['Vishal', 'Trupti', 'Akashy', 'Anuja', 'Sainath', 'Abhij
eet']

After Using Extend :  ['Vishal', 'Trupti', 'Akashy', 'Anuja', 'Sainath', 'Abhij
eet', 'Sidharth', 'Apurva']

After Using Insert :  ['Ajay', 'Vishal', 'Trupti', 'Akashy', 'Anuja', 'Sainat
h', 'Abhijeet', 'Sidharth', 'Apurva']
```

Delete :--> Delete (clear , pop , remove)

In [24]:
```
l3 = ["Vishal",28,"Data Analysis", 25.5 , "M"]

l3.pop()# This Function will remove last Data every Time

print(l3)

l3.remove("Data Analysis") #This function will remove Specific value

print(l3)

l3.clear()#This Function will remove all data from the List
```

After Using Insert : ['Ajay', 'Vishal', 'Trupti', 'Akashy', 'Anuja', 'Sainat

In [24]:
```
l3=['Vishal',28,"Data Analysis",25.5 , "M"]

l3.pop()# This Function will remove last Data every Time

print(l3)

l3.remove("Data Analysis") #This function will remove Specific value

print(l3)

l3.clear()#This Function will remove all data from the List

print(l3)
```

Delete :--> Delete (clear , pop , remove)

```
['Vishal', 28, 'Data Analysis', 25.5]
['Vishal', 28, 25.5]
[]
```