
#4
LIST
ZOOMING

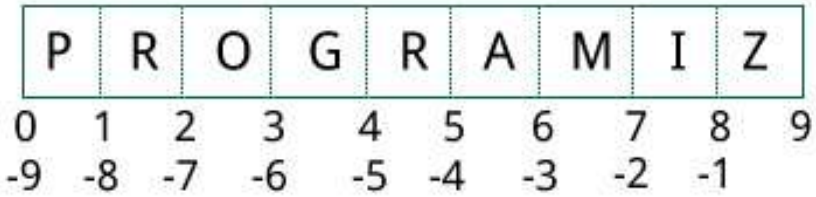
List - Create list

```
# empty list
my_list = []
# list of integers
my_list = [1, 2, 3]
# list with mixed datatypes
my_list = [1, "Hello", 3.4]
# nested list
my_list = ["mouse", [8, 4, 6], ['a']]
```

List – Access list element

```
my_list = ['p','r','o','b','e']

print(my_list[0]) # Output: p

print(my_list[2]) # Output: o

print(my_list[4]) # Output: e
print(my_list[-1]) # Output: e
print(my_list[-5]) # Output: p


n_list = ["Happy", [2,0,1,5]]

print(n_list[0][1]) # Output: a

print(n_list[1][3]) # Output: 5
```

List – Access list element




```
my_list = ['p','r','o','g','r','a','m','i','z']
# elements 3rd to 5th
print(my_list[2:5])
# elements beginning to 4th
print(my_list[:-5])
# elements 6th to end
print(my_list[5:])
# elements beginning to end
print(my_list[:])
```

List – Change or Add elements

```
# mistake values
odd = [2, 4, 6, 8]

odd[0] = 1 # change the 1st item
print(odd) # Output: [1, 4, 6, 8]

odd[1:4] = [3, 5, 7]
print(odd) # Output: [1, 3, 5, 7]
```

```
odd = [1, 3, 5]

odd.append(7)
print(odd)
# Output: [1, 3, 5, 7]

odd.extend([9, 11, 13])
print(odd)
# Output: [1, 3, 5, 7, 9, 11, 13]
```

List – Delete elements

```
my_list = ['p','r','o','b','l','e','m’]

del my_list[2] # delete one item
print(my_list) # Output: ['p', 'r', 'b', 'l', 'e', 'm']

del my_list[1:5] # delete multiple items
print(my_list) # Output: ['p', 'm']

del my_list # delete entire list
print(my_list) # Error: List not defined
```

List Method – append()

- It is used to add elements to the last position of List.

```
List = ['Mathematics', 'chemistry', 1997, 2000]
List.append(20544)
print(List)
```

```
['Mathematics', 'chemistry', 1997, 2000, 20544]
```

List Method – insert()

- It is used to insert element at specific position.

```
List = ['Mathematics', 'chemistry', 1997, 2000]
List.insert(2,10087)
print(List)
```

```
['Mathematics', 'chemistry’, 10087, 1997, 2000]
```

List Method – extend()

- Add multiple values or another list into the end of the current list

```
List1 = [1, 2, 3]
List2 = [2, 3, 4, 5]

# Add List2 to List1
List1.extend(List2)
print(List1)

#Add List1 to List2 now
List2.extend(List1)
print(List2)
```

```
[1, 2, 3, 2, 3, 4, 5]
[2, 3, 4, 5, 1, 2, 3, 2, 3, 4, 5]
```

List Method – sum(), count(), len(), min(), max()

```
List = [1, 2, 3, 4, 5 , 1]
print(sum(List)) //16
print(List.count(1)) //2
print(len(List)) //6
print(min(List)) //1
print(max(List)) //5
```

List Method – sort(), reverse()

```
List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]

#Reverse flag is set True
List.sort(reverse=True)
print(List)
sorted(List)
print(List)
```

```
[5.33, 4.445, 3, 2.5, 2.3, 1.054]
```

```
[1.054, 2.3, 2.5, 3, 4.445, 5.33]
```

List Method – pop(), del(), remove()

pop(): Index is not a necessary parameter, if not mentioned takes the last index.

del() : Element to be deleted is mentioned using list name and index.

remove(): Element to be deleted is mentioned using list name and element.

```
List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
print(List.pop())
print(List.pop(0))
del List[0]
print(List)
print(List.remove(3))
```

```
2.5
2.3
[4.445, 3, 5.33, 1.054, 2.5]
[4.445, 5.33, 1.054, 2.5]
```