



* List Methods or Built-in functions for List Manipulation :-

There are various functions which help us to add, update and delete elements to list in various ways. They are as follows:-

(i) len() function :-

Returns the length of the list passed as the argument i.e. total no. of elements in the list.

eg: `list1 = [10, 20, 30, 40, 50]
print(len(list1))`

Output:- 5

(ii) list() function :-

`list()` is a very powerful function which can create a list from sequence when passed as an argument

eg: `str = 'abcdefghijklm'
list1 = list(str)
print(list1)`

Output → ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h']

(iii) append () function :-

append() is a list manipulation function which can add a new element or list at the end of the list.

eg list1 = [1, 2, 3, 4, 5, 6]
list1.append(7)
print(list1)

Output: [1, 2, 3, 4, 5, 6, 7] → element added at end

list1.append([7, 8])
print(list1)

O/P: [1, 2, 3, 4, 5, 6, 7, [7, 8]] → list added at end.

(iv) extend () function :-

extend is a list manipulation function which append each element of a list passed as an argument in main list.

eg. list1 = [1, 2, 3]
list2 = [4, 5, 6]
list1.extend(list2)
print(list1)

O/P: [1, 2, 3, 4, 5, 6] → elements appended

(V) insert() function :-

insert() is again a powerful list manipulation function which is capable of inserting an element at index of our own choice.

Eg. list 1 = [1, 2, 3, 4, 5, 6]
list1.insert(2, 45)
print(list1)

O/P :- [1, 2, 45, 3, 4, 5, 6] 45 inserted at index 2.

(VI) count() function :-

count() function returns the total no. of times an element appears in the list.

Eg. list 1 = [1, 2, 3, 4, 1, 6, 1, 9, 1]
print(list1.count(1)).

O/P: 4

list1 = [1, 2, 3, 4, 5]
print(list1.count(6))

O/P: 0



index()

(vii) find() function :-

find() function retrieves the first occurrence of the element in the list. If the element is not present, ValueError is generated.

eg. `list1 = [10, 20, 30, 40, 50]
print(list1.index(20))`

O/P :- 0 1

(viii) remove() function :-

Removes the element from the list. If element appears multiple times, it removes the first occurrence of the element. If element is not present, ValueError is generated.

eg. `list1 = [10, 20, 30, 40, 50, 30]
.list1.remove(30)
print(list1)`

O/P :- [10, 20, 40, 50, 30]

(ix) pop() function :-

Returns the element whose index is passed from the function as argument and also removes it from the list.

If no argument is given, it returns and removes the last element of the list.

eg.

```
list1 = [10, 20, 30, 40, 50]
```

```
list1.pop(3)
```

```
print(list1)
```

O/P:-

```
[10, 20, 30, 50]
```

(X)

reverse() function :-

reverse() function inverts the order of elements of given list.

eg.

```
list1 = [10, 20, 30, 40, 50, 60]
```

```
list1.reverse()
```

```
print(list1)
```

O/P:-

```
[60, 50, 40, 30, 20, 10]
```

(xi) sort() function :-

sort() function arranges the element of list. in

- numerical order if list is of int/float.
- alphabetical order if list is of string / character.

eg list1 = ['d', 'g', 'h', 'n', 's', 't', 'c', 'e']
list1.sort()
print(list1)

O/P :- ['c', 'd', 'e', 'g', 'h', 'n', 's', 't']

(xii) sorted() function:-

IT takes a list as parameter and creates a new list consisting of same elements arranged in ascending order.

eg list1 = [23, 45, 11, 17, 6, 19]
list2 = sorted(list1)
print(list2)

O/P :- [6, 11, 17, 19, 23, 45]



(xiii) min(), max() and sum() function:-

min() - returns minimum value of the list.

max() - returns maximum value of the list.

sum() - returns sum of all elements of the list.

eg.

```
list1 = [10, 20, 30, 40, 50, 60]
print(min(list1))
print(max(list1))
print(sum(list1))
```

O/P →

10

60

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