List :- List is the datatype which store same or different types of data.

Ex:-

my-list = ['p', 'r', 2, 'b', 'e', 4]

first item

Print (my-list [0])

O/P : p

Third item

Print (my-list [2])

O/P : 2

Nested list :- List under other list

Nested list :

n-list = ["Happy", [2, 0, 1, 5]]

0 1 2 3 4 0 1 2 3

Nested indexing

Print (n-list [0] [1])

O/P : a [It shows 1 element of '0' indexing list

Print (n-list [1] [3])

O/P : 5 → It shows third index value of 1 member index

Negative indexing in lists :- Negative indexing is same as in string. the last element value, is -1 after that they move to right to left with increment in index with '-1' by default.

0	1	2	3	4
'p'	'r'	'o'	'b'	'e'
-5	-4	-3	-2	-1

my_list1 = ['p', 'r', 'o', 'b', 'e']

Negative indexing in lists

my_list1 = ['p', 'r', 'o', 'b', 'e']

last item

print (my_list1[-1])

fifth item (1st item from start

print (my_list1[-5])

List slicing :-

In python it is same as string slicing, it uses to provide the certain range of data to the users which they needed.

0	1	2	3	4	5
'p'	'q'	'r'	's'	't'	'u'

my_list = ['p', 'q', 'r', 's', 't', 'u']

element from 2 to 4

Print [my_list [2:5]] o/p

r, s, t

element from start to end
Print (my-list[:])

changing the item value of list : It provide the facility to change the item of a list either certain one item or the item up to certain range.

Eg:-
# correcting mistake values in a list
odd = [2,4,6,8]

change the 1st item
odd [0] = 1
Print (odd) O/P :-
1,4,6,8

change value from 2 to 4
Odd [1:4] = [3,5,7]
Print (odd)
O/P - 1,3 5,7]

Appending and Extending :-
These function i.e : append() & extend() is uses to add item at the end of list.
⇒ append() is uses to add only one item at the end.
odd = [1, 3, 5]
odd.append (7)
print (odd) O/P : 1 3 5, 7]

extend() → It is uses to add multiple items at the end of list.

```
odd.extend([9,11,13])
print(odd)
```

O/P:-

1, 3, 5, 7, 9, 11, 13

→ Insert the item in the list at certain position :- insert()

It uses to add new item in the list at the given index number

```
fruits = ["apple", "banana", "cherry"]
fruits.insert(1, "orange")
Print(fruits)
```

O/P:-

apple, banana, cherry, orange

→ List of numbers:-

It uses function like :-

1. max() → It uses to find maximum
2. min() → " " " minimum
3. Sort() → " " " Sort from small to large by default
4. Sum() → " " " sum of all digit
5. Sort(reverse = True) → uses to sort from large to small
6. len() → uses to find

Ex:-

```
Age = [100, 3, 12, 4, 56, 2, 54]
Print(Age)
Print(max(age))
```
O/P:- 100

```
Print(min(age))
```
O/P:- 2

```
age.sort()
print(age)
```
O/P:- [2, 3, 4, 12, 54, 56, 100]

```
age.sort(reverse = True)
print(age)
```
O/P:- [100, 56, 54, 12, 4, 3, 2]

```
a = sum(age)
print(f'sum is :', a)
```
O/P :- 231

f string concept is used to avoid type casting.

```
# length of list
print(len(age))
```
O/P: 7

Count :- uses to find out the repetation of certain item.