**Python Lists**

Python List is an ordered collection of elements and you can store objects of any datatype in the list.

As Python List is an ordered collection, you can access the elements using index (position of the element in the element). the index starts from 0 until the number of items in the list.

Create an Empty List:

To create an empty list in Python, use list() constructor.

Ex:

|  |  |
| --- | --- |
| aList = list()  Or you can also use empty square brackets as shown below.   |  | | --- | | aList = [] | |

Initialize a List in Python:

To initialize a list in Python, assign comma separated elements, enclosed in squared bracket to a variable.

Ex:

|  |
| --- |
| aList = [21, 'John', 541, 84.25, True] |

In addition, let us find out datatype of the variable a list programmatically using type() function.

Ex:

|  |
| --- |
| aList = [21, 'John', 541, 84.25, True]  print(type(aList))  output :# <class 'list'> |
|  |

Python List – Access Elements

To access elements of a list in Python, use variable name followed by square brackets, and the index inside the square brackets. An example is provided below.

Syntax:

|  |
| --- |
| element = aList[index] |

Ex:

|  |
| --- |
| aList = [21, 'John', 541, 84.25, True]    element = aList[2]  print(element)    element = aList[4]  print(element)  output:  541  True |

Python List Length:

You can use len() function to get the length of the list. Pass the list as argument to len() builtin function, and it returns an integer.

Ex:

|  |
| --- |
| aList = [21, 541, 84.25]  print(len(aList)) |

Append Element to Python List:

list.append() function appends element to the end of the list.

Ex:

|  |  |  |
| --- | --- | --- |
| aList = [21, 53, 84]  aList.append(96)  print(aList)  output:  21  53  84  96  Insert Element in Python List:  list.insert(index, element) method inserts the element at specified index of the list. The index of elements that were originally present from that index are shifted right by one position.  Ex:   |  |  | | --- | --- | | aList = ['apple', 'banana', 'cherry']    aList.insert(2, 'mango')    for element in aList:      print(element)  output:  apple  banana  mango  cherry  Sort a Python List:  list.sort() function sorts the list in ascending order by default. You can specify to sort in descending order using ‘reverse’ attribute.  In the following program, we will sort the list of numbers in ascending order.  Ex:   |  | | --- | | aList = [21, 53, 84, 5, 62]    aList.sort()    for element in aList:      print(element)  output:  5  21  53  62  84 | | |