**Python list**

Introduction

It is used to represent the set of the data or it the set of the collection of the data in a sequence form.

Syntax of the python Lists

Name\_of\_List = [ “Item-1”, “Item-2”, “Item-3”, “Item-3”, “Item-4”]

Examples

Empty list fruits =[ ]

Number List roll\_number = [1,2,3,4,5,6,7]

Characters List grade\_of\_student = [ “A”, “a”, “Y”, “a”, “a”]

String List name\_of\_Students = [ “Waqas”, “Ahmed”, “Zahid”, “Niazi”, “Eid”,]

Combine List of All dataTypes Number\_&\_Strign = [ 1, “ Hadi”, 2, “ Hadi”, 3, “ Hadi”, 1, “ Hadi”, 23.4, 34J]

Accessing of the list

By Index listName[Index Number]

Updating the list

Listname[2] = “item” ­­

Delete the list or Items

del listname[index number]

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| **Python Expression** | **Results** | **Description** |
| len([1, 2, 3]) | 3 | Length |
| [1, 2, 3] + [4, 5, 6] | [1, 2, 3, 4, 5, 6] | Concatenation |
| ['Hi!'] \* 4 | ['Hi!', 'Hi!', 'Hi!', 'Hi!'] | Repetition |
| 3 in [1, 2, 3] | True | Membership |
| for x in [1, 2, 3]: print x, | 1 2 3 | Iteration |

Indexing, Slicing, and Matrixes

|  |  |  |
| --- | --- | --- |
| **Python Expression** | **Results** | **Description** |
| L[2] | SPAM! | Offsets start at zero |
| L[-2] | Spam | Negative: count from the right |
| L[1:] | ['Spam', 'SPAM!'] | Slicing fetches sections |

Built-in List Functions & Methods

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| **Sr.No.** | **Function with Description** |
| 1 | [cmp(list1, list2)](https://www.tutorialspoint.com/python/list_cmp.htm)  Compares elements of both lists. |
| 2 | [len(list)](https://www.tutorialspoint.com/python/list_len.htm)  Gives the total length of the list. |
| 3 | [max(list)](https://www.tutorialspoint.com/python/list_max.htm)  Returns item from the list with max value. |
| 4 | [min(list)](https://www.tutorialspoint.com/python/list_min.htm)  Returns item from the list with min value. |
| 5 | [list(seq)](https://www.tutorialspoint.com/python/list_list.htm)  Converts a tuple into list. |

Python includes following list methods

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| **Sr.No.** | **Methods with Description** |
| 1 | [list.append(obj)](https://www.tutorialspoint.com/python/list_append.htm)  Appends object obj to list |
| 2 | [list.count(obj)](https://www.tutorialspoint.com/python/list_count.htm)  Returns count of how many times obj occurs in list |
| 3 | [list.extend(seq)](https://www.tutorialspoint.com/python/list_extend.htm)  Appends the contents of seq to list |
| 4 | [list.index(obj)](https://www.tutorialspoint.com/python/list_index.htm)  Returns the lowest index in list that obj appears |
| 5 | [list.insert(index, obj)](https://www.tutorialspoint.com/python/list_insert.htm)  Inserts object obj into list at offset index |
| 6 | [list.pop(obj=list[-1])](https://www.tutorialspoint.com/python/list_pop.htm)  Removes and returns last object or obj from list |
| 7 | [list.remove(obj)](https://www.tutorialspoint.com/python/list_remove.htm)  Removes object obj from list |
| 8 | [list.reverse()](https://www.tutorialspoint.com/python/list_reverse.htm)  Reverses objects of list in place |