

Module 3

What is List? How will you reverse a list?

Python Lists are just like dynamically sized arrays, declared in other languages (vector in C++ and ArrayList in Java). In simple language, a list is a collection of things, enclosed in [] and separated by commas.

Reversing a List in Python can be done by:

Using the slicing technique slice()

Reversing list by swapping present and last numbers at a time

Using the reversed() and reverse() built-in function

Reversing a list using negative indexing e.g.[::-1] will reverse the list.

How will you compare two lists?

sort() method or the sorted() function with the == operator

set() functions with the == operator

Using the sort() Method or the sorted() Function to Compare Lists

You can use the sort() method or the sorted() function to sort lists with the purpose of comparing them for equality. The sort() method sorts the list in place, while the sorted() function returns a new list. After sorting, lists that are equal will have the same items in the same index positions.

The == operator compares the lists, item by item (element-wise comparison).

The order of the original list items is not important, because the lists are sorted before comparison.

What is tuple? Difference between list and tuple.

Tuple is collections of things or entry which non changeable in nature and can be defined or observed as () closed brackets using a variable.

E.g. x = (1, 2, 4, abhi)

How to Transverse (Iterate) Through a Dictionary in Python?

Dictionary in Python is a collection of data values, used to store data values like a map, unlike other Data Types that hold only a single value as an element, Dictionary holds the key: value pair.

There are multiple ways to iterate over a dictionary in Python.

Access key using the build .keys()

Access key without using a key()

Iterate through all values using .values()

Iterate through all key, and value pairs using items()

Access both key and value without using items()

Print items in Key-Value in pair

How Do You Check The Presence Of A Key In A Dictionary?

By using build .keys() functions.

e.g. = states_And_Capitals = { 'Gujarat': 'Gandhinagar', 'Maharashtra': 'Mumbai', 'Rajasthan': 'Jaipur', 'Bihar': 'Patna' }

keys = states_And_Capitals.keys()

print(keys)

O/P = ['Gujarat', 'Maharashtra', 'Rajasthan', 'Bihar']

Why Do You Use the Zip () Method in Python?

The zip() function returns a zip object, which is an iterator of tuples where the first item in each passed iterator is paired together, and then the second item in each passed iterator are paired together etc.

e.g.: a = (1,2,3) and b = ('a', 'b', 'c')

c = zip(a, b)

print(c)

O/P = (1: 'a', 2: 'b', 3: 'c')

How Many Basic Types Of Functions Are Available In Python?

There are two types of functions in python: User-Defined Functions - these types of functions are defined by the user to perform any specific task. Built-in Functions - These are pre-defined functions in python.

Built-in library function: e.g.: print(), len(), type(), etc

User define can be written as "def function name():"

How can you pick a random item from a list or tuple?

The random item can be picked up using importing random module and using it.

E.g.: a = [1,3,5,2,55]

Import random

Print(random.choice(a))

O/P: 5

How can you pick a random item from a range?

How can you get a random number in python?

Import random

N = random.randint(1111,9999) #range

Print(n)

O/P: 3424

How will you set the starting value in generating random numbers?

```
import random  
  
n = random.randint(0,100)  
print(n)
```

O/P: 77