

Module – 3

Que: What is List? How will you reverse a list?

Ans:

- List is collection of data type
- A list is an ordered and changeable collection of data object.
- Unlike an array, which can object of a single type, a list can contain a mixture of object.
- Reverse Array using the reversed() and reverse() built-in function.

```
List=[10,15,20,25,30,35]
```

```
Print(List.reverse())
```

Que: Differentiate between append () and extend () methods?

Ans:

	Append()	Extend()
Effect:	Append() adds a single element to the end of the list.	Extend() can add multiple individual element to the end of the list.
Argument	Append() takes a single element as argument.	Extend() take an iterable as argument(list,tuple,dictionaries,..)

Ex.

```
tech=['python','ios','java','ruby','php','JAVA']
newtech=['HTML','CSS','JS','Bootstrap']
tech.extend(newtech)
tech.append(newtech)
print(tech)

newtech=tech.copy()
print(newtech)
```

Que: What is tuple? Difference between list and tuple.

Ans:

A tuple is a collection which is ordered and unchangeable. In Python tuples are written with round brackets.

```
thistuple = ("iOS", "Android", "JAVA")
```

the difference between list and tuple is given below.

- A tuple is a collection which is ordered and unchangeable when A list is a collection which is ordered and changeable.
- In Python tuples are written with round brackets when lists are written with square brackets.
- Using the reverse method..
 1. In tuple

```
Reverse_tuple=tuple(reversed(a))
Print(revers_tuple)
```
 2. In list

```
a.reverse()
print(a)
```

Que: How will you create a dictionary using tuples in python?

Ans:

The step-by-step approach using dict() constructor and list comprehension:
Create a list comprehension that generates a tuple of the form (key, value) for each tuple in the input list. Pass the list comprehension as an argument to the dict() constructor to create a dictionary.

```
lts=[("id",1),("name","xyz"),("age",29)]
dec={}
for key,val in lts:
    dec.setdefault(key,val)
    print(dec)

#-----OR-----

print(dict(lts))
```

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

Ans:

- The zip() function in Python is used to combine two or more iterable dictionaries into a single iterable, where corresponding elements from the input iterable are paired together as tuples.
- When using zip() with dictionaries, it pairs the keys and values of the dictionaries based on their position in the dictionary.

Ex:

```
key=["id","name","city"]
st1=[1,"aaa","rajkot"]
st2=[2,"xyz","surat"]
print(dict(zip(key,st1)))
print(dict(zip(key,st2)))
```

Que: How Many Basic Types of Functions Are Available in Python?

Ans:

There are two types of functions available in python

1. User-Defined Functions

- These types of functions are defined by the user to perform any specific task.
- Ex:
def sub(x, y):
 return x-y
print(sub(5,2))

2. Built-in Functions

- These are pre-defined functions in python.
- Ex:

```
l = [2, 5, 19, 7, 43]
print("Length of string is",len(l))
print("Maximum number in list is ",max(l))
print("Type is",type(l))
```

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

Ans:

Generate a random item from the tuple using random. choice() method

- Using random.choice() method
- Using random.randrange() method
- Using random.randint() method
- Using random.random()
- Using random.sample() method
- Using random.choices() method

Que: How can you pick a random item from a range?

Ans:

- Use the **random.randrange()** function(Returns a random number within the specified range) to generate a random number within the given range by passing minimum, and maximum numbers as arguments.

Ex:

```
import random
captcha=['Ghc6','Ndk9','Odm3','9iKc','Lwm8','Nc38','Nck8','Lkc9']
x=random.choice(captcha)
print(x)
```

Que: How can you get a random number in python?

Ans:

- Use the **random.randint()** function(Returns a random number within the specified range) to generate a random number within the given range by passing minimum, and maximum numbers as arguments.

```
import random
x=random.randint(0,20)
print(x)
```

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

Ans:

The seed() method is used to initialize the random number generator. The random number generator needs a number to start with (a seed value), to be able to generate a random number. By default the random number generator uses the current system time.

Ex:

```
import random
random.seed(10)
print(random.random())
```

Que: How will you randomizes the items of a list in place?

Ans:

Shuffle() is the most recommended method to shuffle a list. Python in its random library provides this inbuilt function which in-place shuffles the list.

Que: How Do You Traverse Through A Dictionary Object In Python?

Ans:

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

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

Ans:

- Using the Inbuilt method `get()` method returns a list of available keys in the dictionary.
- With the Inbuilt method `keys()`, use the if statement to check if the key is present in the dictionary or not.
- If the key is present it will print “Present” Otherwise it will print “Not Present”.

Ex:

```
dic={'a': 100, 'b':200, 'c':300}  
if dic.get('b') == None:  
    print("Not Present")  
else:  
    print("Present")
```