Module 3 assignment

**1) What is List? How will you reverse a list?**

-> List is one of the built-in data types in Python. A Python list is a sequence of comma separated items, enclosed in square brackets [ ]. The items in a Python list need not be of the same data type.

-> a built-in function called reverse() is used to reverse the list. This simple and quick way to reverse a list in Python requires little memory. Syntax :list\_name reverse() Here, list\_name means you have to write the list's name, which has to be reversed­­­­­­­­.

**2) How will you remove last object from a list?**

**Suppose list1 is [2, 33, 222, 14, and 25], what is list[-1]?**

-> One way is to use the pop() method. This method removes the last element of a list by default, or you can specify the index of the element you want to remove.

Example: using pop method

list1 = [2, 33, 222, 14, 25]

list1.pop(-1)

print(list1)

**3) Differentiate between append () and extend () methods?**

**->** The append() method in the Python programming language adds an item to a list that already exists whereas the extend() method adds each of the iterable elements which is supplied as a parameter to the end of the original list

**4) how will compare two list?**

-> Two of the most popular methods are set () and cmp() . The set () function creates an object that is a set object. The cmp() function is used to compare two elements or lists and return a value based on the arguments passed.

**5) What is tuple? Difference between list and tuple.**

-> Tuples are used to store multiple items in a single variable. Tuple is one of 4 built-in data types in Python used to store collections of data, the other 3 are List, Set, and Dictionary, all with different qualities and usage. A tuple is a collection which is ordered and unchangeable.

-> List and Tuple in Python are the classes of Python Data Structures. The list is dynamic, whereas the tuple has static characteristics. This means that lists can be modified whereas tuples cannot be modified , the tuple is faster than the list because of static in nature.

**6) How will you create a dictionary using tuples in python?**

**->** Print the original tuples using the print () function and str () function to convert them into strings. Check if the length of both tuples is equal using the len() function. If the length of both tuples is equal, use dictionary comprehension to create a dictionary.

7) **How Do You Traverse Through A Dictionary Object In Python?**

-> Using dict. items() Method. ...

->Using Keys() Method.

->Using Values () Method.

->Iterating with Index.

Iterating Over Dictionary In Alphabetical

Order Sort Using Dictionary Item Values.

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

-> Check If Key Exists using get()

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”.

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

-> 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.

10) How Many Basic Types Of Functions Are Available In Python?

->There are mainly two types of functions in Python.

Built-in library function: These are Standard functions in Python that are available to use. User-defined function: We can create our own functions based on our requirements.

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

-> Using random.choice() method

-> Using random.randrange() method

-> Using random.randint() method

-> Using random.random()

-> Using random.sample() method

-> Using random.choices() method

Use the random.choice () method: The choice() function takes one argument: the no-empty sequence like a list, tuple, string, or any iterable like range. Pass your list as an argument, and It will return a random element from it.

12) How can you pick a random item from a range?

-> Using random.randrange() function.

-> Using random.randint() function.

-> Using random.random() function.

-> Using random.sample()

>>>random.sample() :

Use the import keyword, to import the random module. Enter the required number of random items to be generated. Generate the required number of random numbers using random. sample() by passing the range of numbers(lower limit and upper limit), a number of random items to be generated as arguments to it.

13) How can you get a random number in python?

-> Python defines a set of functions that are used to generate or manipulate random numbers through the random module.

Functions in the random module rely on a pseudo-random number generator function random(), which generates a random float number between 0.0 and 1.0. These particular type of functions is used in a lot of games, lotteries, or any application requiring a random number generation.

->>Let us see an example of generating a random number in Python using the random() function.

Generating random number list in Python

import random

n = random. random()

print(n)

import random

n = random. randint(0,22)

print(n)

import random

randomlist = []

for i in range(0,5):

print(i)

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

-> 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

15) how will you randomizes the items of a list in place?

-> 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.