Module – 2

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

🡪 List is a data-type that stores multiple items in a single variable.

🡪 Lists are created using square brackets.

🡪 It can store elements of different types (Int, float, string etc…).

Ex:

List = [1,2,3,4,5]

List.reverse()

print(List)

# Output:

[5,4,3,2,1]

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

🡪 To remove the last object from list using pop() method.to remove automatically last object from list.

Ex:

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

list1 = list1[:-1]

print(list1)

#Output:

[2,33,222,14]

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

🡪 In python both append() and extend() are methods to list, but they function differently.

* append() method:

🡪 Usage: Adds a single element to the end of the list.

🡪 Parameter: Takes one argument, which can be of any data type.

🡪 Effect: The entire argument is added as a single element.

Ex:

list1 = [1,2,3]

list1.append(4)

print(list1) #Output: [1,2,3,4]

list1.append([“Hello”,”Mihir”])

print(list1) #Output: [1,2,3,4, ['hello', 'ye lo']]

* extend() method:

🡪 Usage: Adds multiple elements to the end of the list.

🡪 Parameter: Takes an iterable (like a list, tuple, or set) as an argument.

🡪 Effect: The elements of the iterable are added individually to the list.

Ex:

list = [1,2,3]

list.extend([4,5,6])

print(list)

#Output:

[1,2,3,4,5,6]

(4) How will you compare two lists?

🡪 To check if two lists contain the same elements in the same order, you can simply use the equality operator(==).

List1 = [1,2,3]

List2 = [1,2,3]

if List1 == List2:

print(“Lists are equal”)

else:

print(“Lists are not equal”)

(5) What is tuple? Difference between list and tuple?

|  |  |  |
| --- | --- | --- |
| Feature | List | Tuple |
| Definition | An ordered , mutable , collection | An ordered, immutable,  collection |
| Syntax | Defined using square bracket [] | Defined using parentheses () |
| Performance | Slower due to dynamic nature. | Faster due to immutability. |
| Usage | Used when data may  change. | Used for fixed data. |
| Size | Lists are larger in  memory | Tuples take up less memory |
| Methods | Has more built-in  methods. | Fewer methods compared to  lists. |

Example of list:

my\_list = [1, 2, 3, "Hello", True]

Example of tuple:

my\_tuple = (1, 2, 3, "Hello", True)

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

🡪 The zip() function in python is used to combine(or zip) multiple iterables (like lists,tuple,etc.)into tuples that group corresponding elements from each iterable.

This method is especially useful when you need to pair or combine data from two or more lists element by element.

Ex:

Name = [‘karan’, ’hemant’, ‘keval’]

Rollno = [50,10,30]

Combine = list(zip(Name,Rollno))

print(combine)

output:

[(‘karan’,50), (‘hemant’,10), (‘keval’,30)]

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

🡪 There are two types of functions:

**1.Buit-in function**

**2.User-defined function**

**1.Buit-in function:**

🡪 These are functions that are pre-defined in Python and are always available.

🡪 Examples: print(), len(), type(), int(), input(), etc.

🡪 Python has many built-in functions that help with various operations like math, string manipulation, and type conversions.

**2.User-defined function:**

🡪 These are functions created by the user using the def keyword. They allow for reusable code blocks to perform specific tasks.

Ex:

def greet(name):

print(f"Hello, {name}!")

**Other functions:**

Lambda functions (This function created using lambda keyword)

Recursive functions (This function call themselves for repetitive function)