1. **What is the difference between set and list?**

**Ans:** The difference between set and list are bellow

**Set list**

**\*** Set is Mutable **\*** Lists is Mutable

**\*** It is Unordered collection of items **\*** It is Ordered collection of items

**\*** Items in set cannot be changed or replaced **\*** Items in list can be replaced or changed

**\*** Sets are designed for fast membership **\*** Lists have an efficient

Testing and unique element storage membership testing based on indexing

**\*** Only one Null value can be stored. **\*** Multiple null values can be stored.

1. **what is the difference between list and tuple?**

**Ans:** The difference between list and tuple are bellow

**List** **Tuple**

**\*** Lists is Mutable **\*** Tuple is Immutable

**\*** It is Ordered collection of items **\*** It is Ordered collection of items

**\***Items in list can be replaced or changed **\*** Items in tuple cannot be change or replace

**\*** Lists consume more memory **\*** Tuple consumes less than the list.

**\*** Iterations are time-consuming **\*** Iterations are comparatively Faster

1. **what do you understand by dictionary in python?**

**Ans:**

A dictionary in Python is a built-in data structure that allows you to store and retrieve data using key-value pairs.Here are the key points about dictionaries:

1. Key-Value Pairs: A dictionary consists of a collection of key-value pairs, where each key is unique within the dictionary. The key is used to access and retrieve the associated value quickly.
2. Mutable and Unordered: Dictionaries are mutable, meaning you can add, remove, or modify key-value pairs after creation. They are also unordered, which means the order of elements is not preserved.

## Accessing an element of a nested dictionary : In order to access the value of any key in the nested dictionary, use indexing [] syntax.

## Accessing elements of a Dictionary : In order to access the items of a dictionary refer to its key name. Key can be used inside square brackets.

1. **What do you mean by pipelining in python?**

**Ans:** In software, a pipeline means performing multiple operations (e.g., calling function after function) in a sequence, for each element of an iterable, in such a way that the output of each element is the input of the next.

In Python, you can build pipelines in various ways, some simpler than others.Below are various examples that depict how to create a pipeline using pandas.

# importing pandas library

import pandas as pd

# Create empty dataframe

df = pd.DataFrame()

# Creating a simple dataframe

df['name'] = ['Reema', 'Shyam', 'Jai',

              'Nimisha', 'Rohit', 'Riya']

df['gender'] = ['Female', 'Male', 'Male',

                'Female', 'Male', 'Female']

df['age'] = [31, 32, 19, 23, 28, 33]

# View dataframe

df

**Output:**

name gender age

1. Reema Female 31

1 Shyam Male 32

2 Jai Male 19

3 Nimisha Female 23

4 Rohit Male 28

5 Riya female 33

1. **what is boxing - unboxing in python?**

**Ans:** In python boxing - unboxing are

**Boxing** : Boxing is the process of converting a primitive type (e.g., int, float, bool) into its corresponding object representation (e.g., int object, float object, bool object). Python automatically performs boxing when a primitive value is assigned to a variable of an object type, such as a list or a dictionary. For example:

*x=5 # Boxing int 5 into an int object*

Here the integer value 5 is boxed into an int object and assigned to the variable.

**Unboxing** : Unboxing is the reverse process of converting an object representation back to its primitive type. It involves extracting the primitive value from an object. For example:

*x=5 # Boxing int 5 into an int object*

*Y=x+3 # Unboxing x, performing addition and boxing the result*

the value of x (an int object) is unboxed to its primitive int type, added to 3, and then boxed back into an int object, which is assigned to the variable y.