

1. What is Python?

Ans: Python is a high-level language. It is interpretable which executes code line by line and used for general purposes. It has large community and ecosystem.

2. Is Python interpreted language? If Yes, Explain?

Ans: Yes, Python is an interpreted language because it executes code line by line.

3. What is difference between interpreter and compiler?

Ans: An Interpreter executes code line by line whereas, a Compiler executes the whole code at Once.

4. What is Data? What are different data types in Python?

Ans: Data is Set of Information. There are two Types of Data types in Python: Primitive and Non-Primitive data Types.

Primitive: These are immutable Data types (can't be modified).

Ex: int, float, ,String, None.

Non-Primitive: These are also called inbuilt data types of Python. They are Mutable(can be modified).

Ex: List, Tuple, Dictionary, Set.

5. What is List? Give an example?

Ans: Lists are collection of data that can be Primitive, Non-Primitive and both. They are mutable. They are represented as "[]".

Ex: children = ["ramya", "Soumya"] #primitive

Info = ["sujju", 21, "hyd", "BTech", 7.49, True] #Non-Primitive

Info = ["sujju", 21, "hyd", "BTech", 7.49, True, ["a","b","c"]] #both

6. What is dictionary? Give an example?

Ans: It is collection of data in the form of key-value Pair. It is represented as "{ }".

Ex: MBdetails = { "name" : "Mahesh Babu", "age" : 49, "movies_count" : 30, "movies": ["Pokiri", "Maharshi", "Bramhotsavam"], "children" : { "child1" : "Gautam", "child2" : "sitara"} }

7. What is Tuple? Give an Example?

Ans: Tuple is a sequence of items which is immutable. It should be more than one item.

Ex: abc = (1, "sujju", "10000coders")

8. What is the difference between Mutable and Immutable? Give an example for each of them to demonstrate?

Ans: Immutable Data types can't be modified. Changing content does not create a new object.

Ex: List, Dictionary, Set.

Mutable data types can be modified. Changing content creates a new object.

Ex: String, Tuple, Integer, Float.

9. What is the difference between Tuple and List?

Ans: List is a mutable sequence of elements. Elements can be modified, added, or removed. Used when data may change.

Tuple is an immutable sequence of elements. Elements cannot be changed once created. Used for fixed data collection.

10. How can we mutate the List?

Ans: we can use methods like Pop(), index() to access elements in the list.

Pop(): Removes the last element.

Index(): Returns a specific element.

11. What is the difference between Append() and Insert() methods in list?

Ans: append() : Adds an element at the end of the list.

Ex: list.append(element)

insert(): Adds an element at a specific index.

Ex: list.insert(index, element)

12. Difference between Pop and Pop (index)?

Ans: Pop removes last element but Pop(index) removes specific element.

13. How can you mutate dictionary in python? Give an example?

Ans: abc = { "year" : 2025, "loc" : "hyd" }

 abc ["year" = 2026} or del abc["year"]

14. Write Nested Dictionaries for Electronic Products?

Ans: electronic_products = {

 'Laptop': {

 'Brand': 'Dell',

```
'Model': 'Inspiron 15',
'Price': 60000,
'Specifications': {
  'Processor': 'Intel i5',
  'RAM': '8GB',
  'Storage': '512GB SSD'
},
'Smartphone': {
  'Brand': 'Samsung',
  'Model': 'Galaxy S23',
  'Price': 80000,
  'Specifications': {
    'Processor': 'Snapdragon 8 Gen 2',
    'RAM': '12GB',
    'Storage': '256GB'
  },
'Television': {
  'Brand': 'Sony',
  'Model': 'Bravia X80L',
  'Price': 90000,
  'Specifications': {
    'Screen Size': '55 inches',
    'Type': 'LED',
    'Resolution': '4K Ultra HD'
  },
}
```

```
print(electronic_products)
```

15. Write a list of dictionaries?

Ans: students = [

```
    {'Name': 'Mahima', 'Age': 20, 'Grade': 'A'},
```

```
    {'Name': 'Bob', 'Age': 21, 'Grade': 'B'},
```

```
    {'Name': 'Sony', 'Age': 19, 'Grade': 'A+'},
```

```
    {'Name': 'Sagar', 'Age': 22, 'Grade': 'B+'}
```

```
]
```

```
print(students)
```