**Python Introduction**

* Python is created by Guido van Rossum, and released in 1991
* Python is general-purpose , dynamic , high-level , and interpreted programming language
* It supports object-oriented programming and functional or procedural programming approaches to develop applications.
* It is simple and easy to learn and provides lots of high-level data structures
* Python provides many useful features to the programmer, these features make it the most popular and widely used language.
* Simple
* Easy to learn
* Dynamically typed
* Platform independent
* Portable
* Procedure and object-oriented
* Wide range of libraries and object-oriented
* Python used in technical field
* Web application development
* Data science
* Machine learning
* Deep learning
* Computer vision
* NLP
* Mobile application
* Internet of things (IOT)

**Data Types:**

Data types are the classification or categorization of data items, python supports the following built-in data types.

1. Numeric Types
2. Sequence Types
3. Mapping Type
4. Set Types
5. Boolean Type
6. Binary Type
7. None Type
8. **Numeric Types:** in the numeric types there are three types int, float complex

**int:** both +ve and -ve , and zero values without fraction part

Ex: 5, -10

**Float:** real numbers have integers and fractional

Ex: 3,4,5.98, 3.4e2 (scientific notation)

**Complex:** the numerals will be in the form of a+bj, where “a” is the real part and “b” is the complex part

Ex:2+3j

1. **Sequence Types:** The sequence types there are three types string, list, tuple

**String:** A string refers to text or group of characters with in a single quote or double quote or triple quote

Ex: “hello”, ‘hai’, ‘’’fun’’’

**List:** a list is collection of elements it is mutable

Ex: l=[1,”hello”,3+4j,4.7]

**Tuple:** tuple is a collection of elements

Ex: t=(1,2,3,4,5)

1. **Mapping Type :** dictionary (dict) is a set of key-value pairs, keys should be unique

Ex:d={‘name:’irser’, ’age’:30, ’dept’:’cse’}

1. **Set Types:** The set are two types set, fronzenset

**Set:** Unordered, mutable collection of unique elements

Ex: s= {1,2,3,4,5,6,7}

**Frozen set:** immutable version of a set, Ex: frozenset([1,2,3])

1. **Boolean Type:** True and false are only two Boolean literals in python, True represents the values as 1 and False represents the value as 0

Ex: True, False

1. **Binary Type :** the binary types are three types bytes, byte array, memory view

**Bytes:** immutable sequence of bytes,

Ex: b’hello’

**Bytearray:** Mutable sequence of bytes,

Ex: bytearray(b’hello’)

**memoryView:** A view object of another binary data buffer

1. **None Type:** Represents the absence of a value Ex: None