**INTRODUCTION TO PYTHON**

* Python is a high-level object oriented programming language
* It was invented in the year of 1991 by Guido van Rossum
* Python was a interpreted programming language
* It is easy to learn
* Syntax is minimal in python

**Data Types**

In programming languages, every value or data has an associated type to it known as data type.

**Text Type:**

**1.String:**

The characters which are encloused in in quotes is called as string. strings are immutable.

**Examples:**

“gopi”

“12345”

“#gopi@12456”

**Numeric Types:**

**1.Integers:**

The numbers without any fractional part is called as integers. Integers includes …-4,-3,-2,-1,0,1,2,3,4…

**2.float:**

Any number with decimal number is called as float.

Examples: 24.3, 345.210, -321.86

**3.Complex:**

Complex numbers are used to represent complex datatypes it consists of both real and Imaginary part

Example:

Z = 5 + 7j

5 is the real part

7j is the imaginary part

**Boolean Type:**

**1.Boolean:**

True and False is considered as Boolean values we should specify Boolean values in python starting with capital letters like True, False.

**Sequence Types:**

**1.List:**

list is a built-in data structure it is used to store sequence of items list is created by enclosing in square brackets each item is separated by comma. List are mutable.

List = [‘gopi’, 1.2, 4, ‘jeevan’]

**2.Tuple:**

Tupe is also a built in data structure. Holds an ordered sequence of items tuples are created in closed brackets. Tuples are immutable, and each item is separated by comma.

**3.range:**

range data type is commonly used in for loop for iteration. Range is commonly used in for loop to iterate over the sequence of numbers.

for i in range(5):

print(i)

# Output:

# 0

# 1

# 2

# 3

# 4

**Set Types:**

**1.Set:**

Set is a unordered collection of items. Set is built in datatype in python set does not allows duplicate values. enclosed in curly braces. Set is mutable, every value is separated by comma.

Set\_a = {1,2,3,4}

**2. forzenset:**

Frozenset is the immutable version of set once the set is created, we cannot modify.

fs = frozenset ([1, 2, 3])

**Mapping Type:**

**1.Dictionaries:**

Dictionary is a unordered collection of items. Every item is a key value pair created by enclosing in curly brackets key value pairs are seperaited by comma keys are immutable in dictionaries.

dict\_a = {"name": "Teja","age": 15}

**None Type:**

**1. None Type:**

None is represented in python in the absence of value or null value.

**Binary Types**

**1.bytes:**

Byte is a built-in datatype used to represent immutable sequence of bytes.

Each byte is an integer in the range of 0 to 255,

**2.bytearray :**

In Python, bytearray is a mutable sequence of bytes, similar to bytes, but it allows modification of its contents after creation. Each element in a bytearray is an integer between 0 and 255

**3.memoryview :**