Section 1 – Introduction

* 1. Install pyhton & Setup (Click for [Youtube](https://youtu.be/wSZSw2ABSz0sub_confirmation=1) Link)
  2. Basic Data Types & Variables in Pyhton ([Click for Youtube link](https://youtu.be/Tg0aXpBJhk0) )
  3. Compound Data Type
     1. List ([Youtube Link)](https://youtu.be/xInPMMKyA_Y)

[Click Here](https://www.youtube.com/channel/UCjvrjPEa2tVbtf5heERzXsw?sub_confirmation=1)

Compound Data Type

Lists, dictionaries, tuples and set are the 4 built in data types in python.

1. **List**
   1. A list is **an array of objects**.List is **ordered collection of objects** & it has **index.** An list can have integer values, string values, float values, or  a combination or these.
   2. INDEX:
      1. Index in the position of element
      2. in Python counting Starts from 0 not 1
      3. Use index to extract elements from a list
2. **List creation with [].**
   1. List is cretaed with a [ ], elements are separated by a ,

my\_list= [ 1,2,3,5,7,11,13,17].

You can separate the elements by a space.Space is not counted in list.

* A List can have different datatypes in it.

my\_list1=[10,12.25, “text”, True]

But it is a good practice to have homogenous data type in a list.

1. **Some Common Function on List**
   * 1. len() : Give no of elements in a list
2. **Operations on List**
   * 1. **List sliceing / Extraction of elements with [ ]**
3. Extarct a single element

List\_name[ 5]

1. Extract multiple elements

list\_name[starting index : Ending Index]

list\_name[5:9].

NOTE: Element on the Ending index is not included in the extarcted subset.

1. Extract from end of list with “-“

my\_list[-4]

* + 1. **Add new element to a list**

1. append(): Add at the end of a list

my\_list.append(“item to be added”)

1. insert(): Adds at the given index position.

my\_list.insert()

* + 1. **Replace element in list**

x[6]="new\_name" #change ‘old\_name’ to new\_name

* + 1. **Delete element**
       1. **remove()**
       2. **pop()**
       3. **clear()**
       4. **del()**

1. Tuples
   1. Tuples are just like lists but they are immutable. Once you define a list you can add new items to them, remove existing items and so on, but you cannot do that with a tuple
   2. Uses round bracket to create a tuple ( )
2. Dictionaries
   1. Dictionaries are used to store data values in key:value pairs.
   2. A dictionary is a collection which is unordered, changeable and does not allow duplicates
   3. Uses curly bracket.
   4. Operations on a distionary:
      1. Accessing Elements of a Dictionary.

We pass name of key in [ ] to access the value of the key.

dictonary\_1= {'Name': 'Mary', 'Age': 20,

dictonary\_1[‘Name’]: Output: Mary

* + 1. Update.

Dictionaries are mutable, ie they can be updated.

We can add new items or change the value of existing items using an assignment operator.If the key is already present, then the existing value gets updated. In case the key is not present, a new (**key: value**) pair is added to the dictionary.

dictonary\_1[‘Name’]: ‘John’

* + 1. Drop value.

dictonary\_1.pop('Name'). Key ‘Name’ and its value will be dropped from the dict.