**Python Assignment on List, Tuple And Dictionary, What Are Their Differences?**

**WED. 6th November,2024**

**Question 1. List**

A list is a data structure in python that is a mutable, or changeable, ordered sequence of elements. Each element or value that is inside of a list is called an item. Just as string are defined as characters between quotes, list are defined by having values between square brackets [].

Lists are agent to use when you want to work with many related values. They enable you to keep data together that belong together, condense your code, and perform the same methods and operations on multiple values at once.

**Question 2. Tuple**

Tuples are used to store multiple items in a single variable.

Tuple is one of 4 built-in data types in Python used to store collections of data, the other 3 are [List](https://www.w3schools.com/python/python_lists.asp), [Set](https://www.w3schools.com/python/python_sets.asp), and [Dictionary](https://www.w3schools.com/python/python_dictionaries.asp), all with different qualities and usage.

A tuple is a collection which is ordered and **unchangeable**.

Tuples are written with round brackets.

Example,

Create a Tuple:

This tuple = ("apple", "banana", "cherry")  
print(thistuple)

Example

Tuples allow duplicate values:

thistuple = ("apple", "banana", "cherry", "apple", "cherry")  
print(thistuple)

**Question 3.** Dictionary

Dictionaries are used to store data values in key:value pairs.

A dictionary is a collection which is ordered\*, changeable and do not allow duplicates.

As of Python version 3.7, dictionaries are *ordered*. In Python 3.6 and earlier, dictionaries are *unordered*.

Dictionaries are written with curly brackets, and have keys and values:

Example

Create and print a dictionary:

thisdict = {  
  "brand": "Ford",  
  "model": "Mustang",  
  "year": 1964  
}  
print(thisdict)

# **Key Difference Between List, Tuple and Dictionary in Python**

# **Mutability:**

* **List:** Mutable (modifiable).
* **Tuple:** Immutable (non-modifiable).
* **Dictionary:** Mutable; keys are immutable, but values can change