**Day 3 – DICTIONARY, SETS**

# Dictionary:

# Python provides another composite datatype called a **dictionary**, which is similar to a list in that it is a collection of objects.

# A dictionary consists of a collection of key-value pairs. Each key-value pair maps the key to its associated value.

# Dictionary can be defined by enclosing a comma-separated list of key-value pairs in curly braces ({}). A colon (:) separates each key from its associated value

dictionary = {<key>: <value>,

<key>: <value>,}

**Example:**capitals={"Maharashtra":"Mumbai",   
 "Telangana":"Hyderabad",   
 "Tamilnadu":"Chennai",   
 "Karnataka":"Bengaluru",   
 "Bihar":"Patna"}

# A value is retrieved from a dictionary by specifying its corresponding key in square brackets

# Example: print(capitals[‘Maharastra’])

# Adding an entry to an existing dictionary is simply a matter of assigning a new key and value

# Example: capitals[‘Goa’] =’panaji’

# If you want to update an entry, you can just assign a new value to an existing key

# Example: capitals[‘Tamilnadu’] =’Madras’

# Delete an entry, use the del statement, specifying the key to delete

# Example: del capitals[‘Maharastra’]

# There is no restrictions on dictionary values.A dictionary value can be any type of object Python supports, including mutable types like lists and dictionaries, and user-defined objects

# a given key can appear in a dictionary only once. Duplicate keys are not allowed

# dictionary key must be of a type that is immutable. A tuple can also be a dictionary key, because tuples are immutable

# Method Description

# clear() Removes all the elements from the dictionary

# copy() Returns a copy of the dictionary

# fromkeys() Returns a dictionary with the specified keys and value

# get() Returns the value of the specified key

# items() Returns a list containing a tuple for each key value pair

# keys() Returns a list containing the dictionary's keys

# pop() Removes the element with the specified key

# popitem() Removes the last inserted key-value pair

# setdefault() Returns the value of the specified key. If the key does not exist: insert the key, with the specified value

# update() Updates the dictionary with the specified key-value pairs

# values() Returns a list of all the values in the dictionary

# Sets:

# A set is a collection which is unordered and unindexed. In Python, sets are written with curly brackets. Example: CSK = {"dhoni", "bravo", "jadeja"}

# Set cannot access items in a set by referring to an index or a key.

# To add one item to a set use the add() method& To add more than one item to a set use the update() method.

# Remove an item in a set, use the remove(), or the discard() method.

# Exercise:

# Write a Python script to merge two Python dictionaries

# Write a Python program to remove a key from a dictionary

# Write a Python program to map two lists into a dictionary

# Write a Python program to find the length of a set

# Write a Python program to remove the intersection of a 2nd set from the 1st set