**Difference of Sets, List, Tuple and Dictionary**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type Name** | **Sets** | **List** | **Tuple** | **Dictionary** | **Remarks** |
|  | Set\_A = {‘a’,1,2,’c’} | List\_A=  [1,’ab’,’name’] | Tuple=  (‘hari’,30,’kiwi’) | Fruits = {  ‘mango’:20,  ‘kiwi’: 10,  ‘Litchi’:40  } | Declaration |
| **Order** | No fixed order | Maintain Order | Maintain Order | a/c to python 3.7, Orders is initialized | It allows us to kept elements in order |
| **Indexing** | No index-based mechanism | Integer based indexing starting from 0 | Integer based indexing starting from 0 | Key-based indexing | Indexing is done according to elements place. |
| **Duplication** | Does not allow duplicate data | Allows duplication of  data | Allows duplication of data | Keys are unique, values can be duplicate | Set & Dict are not able to duplicate data |
| **Adding Elements** | Use **add()** method | Use **append()** method | Being immutable, new data cannot be added | Uses k**ey-value pairs** | Only tuple does not support insertion |
| **Mutability** | Mutable, but elements inside must be immutable | Mutable | Mutable | Keys are mutable, value cannot be changed | Mutable  aids on changing values or elements |
| **Slicing** | No slicing | Slicing | Slicing | No slicing |  |
| **Deleting** | Uses **pop()** method | Uses **pop()** method | Being immutable, deleting is not possible | Uses pop(key) method to remove specified key-value pair | Deleting performs the removing of values |

**Common String Methods:**

|  |  |
| --- | --- |
| **Methods** | **Functions** |
| .Upper() | Upper case a string |
| .Lower() | Lower case a string |
| .split() | Split a string at specified separator |
| .strip() | Return trimmed version of the string |
| .replace() | Returns a string where a specified value is replaced with a specified value |
| .endswith() | Returns True if the string ends with specified value |
| .isdigit() | Returns True if all characters in the string are digits |

**List Methods:**

|  |  |
| --- | --- |
| **Methods** | **Functions** |
| .append() | Methods to add an item to the end of the list |
| .insert() | Methods to add an item to list at a specified index |
| .extend() | Methods to append elements from another list to the current list |
| .remove() | To remove the specified item using the item name |
| .pop() | To remove the list item using index. By default pop takes up the last index. |
| .reverse() | Method to reverse list |
| .sort() | To sort the string either in ascending and descending order. |

**Sets Methods:**

|  |  |
| --- | --- |
| **Methods** | **Functions** |
| .add() | To add a new elements to a set |
| .remove() | To remove item from a set |
| .pop() | To remove item from a set and returns removed item |
| .union() | It returns a set of containing union of sets |
| .intersection() | Method that returns a set that is intersection of 2 other sets |
| .difference() | Method that returns a set containing difference between two or more sets. |

**Tuples Methods:**

|  |  |
| --- | --- |
| **Method** | **Functions** |
| .count() | It returns number of times a specified value occurs in a tuple |
| .index() | It returns index of specified value in tuple. |

**Dictionary Methods:**

|  |  |
| --- | --- |
| **Method** | **Functions** |
| .get() | Returns the value of the specified key |
| .keys() | Returns a list of containing the dictionary’s keys |
| .values() | Returns a list of all the values in the dictionary |
| .items() | Returns a list containing a tuple of each key-value pairs |
| .update() | Updates the dictionary with the specified key-value pairs |
| .pop() | Removes the elements with the specified key |
| .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 |
| .setdefault() | Returns the value of the specified key. |
| .update() | It updates the dictionary with the specified key-value pairs |
| .popitems() | It removes the last inserted key-value pair. |