

Week_03_Assignment_Celebal_Training
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Q1. Difference between List, Tuple, Set, Dict:

Parameters	List	Tuple	Set	Dictionary
Representation	We can represent the list by []	We can represent the tuple by ()	We can represent the set {}	We can represent the dict. {}
Duplicates Items	List allows the duplicate items.	Tuple allows the duplicate items.	Set cannot allow any duplicate items	The keys are not at all duplicated.
Function for creation	List use the list()	Tuple use the tuple()	Set use the set()	Dict use the dict()
Mutation	List is mutable. This means that the user can make any change in the list	Tuple is immutable. Means that the user cant's make any change to the tuple	Set is mutable. This means that the user can make any change in list	Dict is mutable but are not at all duplicated
Order	Order	Order	Unorder	Order
Empty Element	L = []	T = ()	A = set() A = set(b)	D = {}
Example	L = [2,3,4]	T = ('a',4,5)	S = {1,2,3}	D = {'name': 'Ram', 'div': 'A'}

Q2. The built-in function of List, Tuple, Set, Dict

- **List**

1. all() - This function returns true if all elements of a given iterable(List, Set, Tuple, Dict) are True else it returns false. It also returns true if the iterable object is empty.

2. `any()` - This function returns true if any of the elements of a given iterable are true else it returns false.
3. `len()` - This function returns the length of the string
4. `map()` - This function returns a map object(which is an iterator) of the results after the given function to each item of a given iterable.
5. `max()` - This function returns the largest item in an iterable or the largest of two or more arguments.
6. `min()` - This function returns the smallest of the value or smallest item in an iterable passed as its parameter.
7. `append()` - Adds an element at the end of the list
8. `clear()` - removes all the elements from the list
9. `copy()` - returns a copy of the list
10. `count()` - returns the numbers of elements with the specified value
11. `extend()` - Add the elements of a list (or any iterable), to the end of the current list
12. `index()` - Returns the index of the first element with the specified value
13. `insert()` - Adds an element at the specified position
14. `pop()` - Removes the element at the specified position
15. `remove()` - Removes the item with the specified value
16. `reverse()` - Reverses the order of the list
17. `sort()` - sorts the list

● Tuple

1. `count()` - Returns the number of times a specified value occurs in a tuple
2. `index()` - Searches the tuple for a specified value and returns the position of where it was found
3. `all()` - This function returns true if all elements of a given iterable(List, Set, Tuple, Dict) are True else it returns false. It also returns true if the iterable object is empty.
4. `any()` - This function returns true if any of the elements of a given iterable are true else it returns false.
5. `len()` - This function returns the length of the string
6. `map()` - This function returns a map object(which is an iterator) of the results after the given function to each item of a given iterable.

7. `max()` - This function returns the largest item in an iterable or the largest of two or more arguments.
8. `min()` - This function returns the smallest of the value or smallest item in an iterable passed as its parameter.

- **Set**

1. `add()` - Adds an element to the set
2. `clear()` - Removes all the elements from the set
3. `copy()` - Returns a copy of the set
4. `pop()` - Removes an element from the set
5. `union()` - Return a set containing the union of sets
6. `update()` - Update the set with the union of this set and others
7. `remove()` - Removes the specified element
8. `pop()` - Removes an element from the set
9. `len()` - This function returns the length of the string

- **Dict**

1. `clear()` - Removes all the elements from the dictionary
2. `copy()` - Returns a copy of the dictionary
3. `get()` - Returns the value of the specified key
4. `items()` - Returns a list containing a tuple for each key value pair
5. `keys()` - Returns a list containing the dictionary's keys
6. `pop()` - Removes the element with the specified key
7. `popitem()` - Removes the last inserted key-value pair
8. `update()` - Updates the dictionary with the specified key-value pairs
9. `values()` - Returns a list of all the values in the dictionary
10. `len()` - This function returns the length of the string