
#6
DICTIONARY
ZOOMING

# Dictionary

- It is an unordered collection of data values, used to store data values like a map.
- Dictionary holds **key:value** pair.
- Key value is provided in the dictionary to make it more optimized.
- Each key-value pair in a Dictionary is separated by a colon **:**,
- whereas each key is separated by a ‘comma’.
- Key – must be unique and immutable datatype.
- Value – can be repeated with any datatype..

# Dictionary - Create

```
# Creating an empty Dictionary
Dict = {}

# Creating a Dictionary with Integer Keys
Dict = {1: 'Zooming', 2: 'For', 3: 'Zooming’}

# Creating a Dictionary  with Mixed keys
Dict = {'Name': 'Zooming', 1: [1, 2, 3, 4]}

# Creating a Dictionary with dict() method
Dict = dict({1: 'Zooming', 2: 'For', 3:'Zooming’})

# Creating a Dictionary with each item as a Pair
Dict = dict([(1, 'Zooming'), (2, 'For')])
```

# Dictionary – Adding element

```
# Creating an empty Dictionary
Dict = {}

# Adding elements one at a time
Dict[0] = 'Zooming'
Dict[2] = 'For'
Dict[3] = 1

# Adding set of values
# to a single Key
Dict['Value_set'] = 2, 3, 4

# Updating existing Key's Value
Dict[2] = 'Welcome’

# Adding Nested Key value to Dictionary
Dict[5] = {'Nested' :{'1' : 'Life', '2' : 'Zooming’}}
```

# Dictionary – Accessing element

```
# Creating a Dictionary
Dict = {1: 'Zooming', 'name': 'For', 3: 'Zooming'}

# accessing a element using key
print("Acessing a element using key:")
print(Dict['name'])

# accessing a element using key
print("Acessing a element using key:")
print(Dict[1])

# accessing a element using get()
# method
print("Acessing a element using get:")
print(Dict.get(3))
```

# Dictionary – Removing element

```
Dict = { 5 : 'Welcome', 6 : 'To', 7 : 'Geeks’,
         'A' : {1 : 'Geeks', 2 : 'For', 3 : 'Geeks'},
         'B' : {1 : 'Geeks', 2 : 'Life'}}
print("Initial Dictionary: ")
print(Dict)

# Deleting a Key value
del Dict[6]

# Deleting a Key from Nested Dictionary
del Dict['A'][2]

# Deleting a Key using pop()
Dict.pop(5)

# Deleting entire Dictionary
Dict.clear()
```

| METHODS | DESCRIPTION |
|---|---|
| copy() | They copy() method returns a shallow copy of the dictionary. |
| clear() | The clear() method removes all items from the dictionary. |
| pop() | Removes and returns an element from a dictionary having the given key. |
| popitem() | Removes the arbitrary key-value pair from the dictionary and returns it as tuple. |
| get() | It is a conventional method to access a value for a key. |
| dictionary_name.values() | returns a list of all the values available in a given dictionary. |
| str() | Produces a printable string representation of a dictionary. |
| update() | Adds dictionary dict2's key-values pairs to dict |
| setdefault() | Set dict[key]=default if key is not already in dict |
| keys() | Returns list of dictionary dict's keys |
| items() | Returns a list of dict's (key, value) tuple pairs |
| has_key() | Returns true if key in dictionary dict, false otherwise |
| fromkeys() | Create a new dictionary with keys from seq and values set to value. |
| type() | Returns the type of the passed variable. |
| cmp() | Compares elements of both dict. |