# Python Dictionary

## Python Dictionary

Python Dictionary is a collection. It can contain multiple elements.

Python Dictionary is un-ordered. The elements in the dictionary are not stored in a sequence. For example, if you add an item to a dictionary, it can be inserted at any index.

Python Dictionary is changeable. You can update an item using its key, delete an item, or add an item. The original dictionary gets updated. Simply put, Python Dictionary is mutable.

Python Dictionary is indexed. You can access a specific key:value pair using key as index.

## Create a Python Dictionary with Initial Values

To create a python dictionary, assign a variable with comma separated key:value pairs enclosed in curly braces.

In the following example, we create a dictionary with some initial key:value pairs.

```
#initialize tuple
aDict = {
    'tallest building':'Burj Khalifa',
    'longest river':'The Nile',
    'biggest ocean':'The Pacific Ocean'
}
```

In the above example, `tallest building`, `longest river` and `biggest ocean` are keys while `Burj Khalifa`, `The Nile` and `The Pacific Ocean` are their corresponding values.

## Access Specific Key:Value Pair

To access a specific key:value pair in a dictionary, use key as index on the dictionary.

```
#initialize tuple
aDict = {
    'tallest building':'Burj Khalifa',
    'longest river':'The Nile',
    'biggest ocean':'The Pacific Ocean'
}

print(aDict['longest river'])
```

**Output**

```
The Nile
```

## Iterate through key:value pairs of Python Dictionary

To iterate through all key:value pairs of a Python Dictionary, you can use for loop as shown below.

```
#initialize tuple
aDict = {
    'tallest building':'Burj Khalifa',
    'longest river':'The Nile',
    'biggest ocean':'The Pacific Ocean'
}

for key in aDict:
    print(key,':',aDict[key])
```

**Output**

```
tallest building : Burj Khalifa
longest river : The Nile
biggest ocean : The Pacific Ocean
```

## Add a new Key:Value Pair to the Dictionary

To add a new key value pair to the dictionary, just assign the value to the dictionary using key as index.

```
#initialize tuple
aDict = {
    'tallest building':'Burj Khalifa',
    'longest river':'The Nile',
    'biggest ocean':'The Pacific Ocean'
}

aDict['biggest forest'] = 'The Amazon'

for key in aDict:
    print(key, ':', aDict[key])
```

**Output**

```
tallest building : Burj Khalifa
longest river : The Nile
biggest ocean : The Pacific Ocean
biggest forest : The Amazon
```

## Dictionary Operations

You can perform many other operations on Dictionary. You can refer these following tutorials for different operations available on a Python Dictionary.

- Get Keys of Python Dictionary as a List
- Get Values of Python Dictionary as a List
- Remove all elements of a Python Dictionary
- Get Length of Python Dictionary
- Compare two Python Dictionaries

## Conclusion

In this Python Tutorial, we learned how to initialize a Dictionary in Python, how to iterate through the key:value pairs of the dictionary, how to add a new key:value pair to the dictionary and many other operations that could be performed on a Python Dictionary.

## Python Programming

- Python Tutorial
- Install Python
- Install Anaconda Python
- Python HelloWorld Program
- Python Variables
- Python Variable Data Type Conversion
- Python Comments

## Control Statements

- Python If
- Python If Else
- Python While Loop
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## Python String

- Python String Methods
- Python String Length
- Python String Replace
- Python Split String
- Python Count Occurrences of Sub-String
- Python Sort List of Strings

## Functions

- Python Functions

## Python Collections

- Python List
- Python Dictionary

## Advanced

- Python Multithreading

## Useful Resources

- Python Interview Questions