



Chapter 9
Dictionary

Informatics Practices Class XI (As per CBSE Board)

Visit : python.mykvs.in for regular updates

Dictionary



It is an unordered collection of items where each item consist of a key and a value.

It is mutable (can modify its contents) but Key must be unique and immutable.



```
{'key': 'value'}
```



Creating A Dictionary

It is enclosed in curly braces {} and each item is separated from other item by a comma(,). Within each item, key and value are separated by a colon (:). Passing value in dictionary at declaration is dictionary initialization.

e.g.

```
dict = {'Subject': 'Informatic Practices', 'Class': '11'}
```

Accessing List Item

```
dict = {'Subject': 'Informatics Practices', 'Class': 11}
```

```
print(dict)
```

```
print ("Subject : ", dict['Subject'])
```

```
print ("Class : ", dict.get('Class'))
```

OUTPUT

```
{'Class': '11', 'Subject': 'Informatics Practices'}
```

```
('Subject : ', 'Informatics Practices')
```

```
('Class : ', 11)
```

Dictionary

Iterating / Traversing through A Dictionary

Following example will show how dictionary items can be accessed through loop.

e.g.

```
dict = {'Subject': 'Informatics Practices', 'Class': 11}
for i in dict:
    print(dict[i])
```

OUTPUT

11

Informatics Practices

Updating/Manipulating Dictionary Elements

We can change the individual element of dictionary.

e.g.

```
dict = {'Subject': 'Informatics Practices', 'Class': 11}
dict['Subject']='computer science'
print(dict)
```

OUTPUT

```
{'Class': 11, 'Subject': 'computer science'}
```



Deleting Dictionary Elements

`del`, `pop()` and `clear()` statement are used to remove elements from the dictionary.

`del` e.g.

```
dict = {'Subject': 'Informatics Practices', 'Class': 11}
print('before del', dict)
del dict['Class'] # delete single element
print('after item delete', dict)
del dict #delete whole dictionary
print('after dictionary delete', dict)
```

Output

```
('before del', {'Class': 11, 'Subject': 'Informatics Practices'})
('after item delete', {'Subject': 'Informatics Practices'})
('after dictionary delete', <type 'dict'>)
```

Dictionary



pop() method is used to remove a particular item in a dictionary. clear() method is used to remove all elements from the dictionary.

e.g.

```
dict = {'Subject': 'Informatics Practices', 'Class': 11}
print('before del', dict)
dict.pop('Class')
print('after item delete', dict)
dict.clear()
print('after clear', dict)
```

Output

```
('before del', {'Class': 11, 'Subject': 'Informatics Practices'})
('after item delete', {'Subject': 'Informatics Practices'})
('after clear', {})
```



Built-in Dictionary Functions

S.No.	Function & Description
1	<u>len(dict)</u> Gives the total length of the dictionary. It is equal to the number of items in the dictionary.
2	<u>str(dict)</u> Return a printable string representation of a dictionary
3	<u>type(variable)</u> If variable is dictionary, then it would return a dictionary type.



Built-in Dictionary Methods

S.No.	Method & Description
1	<u>dict.clear()</u> Removes all elements of dictionary dict
2	<u>dict.copy()</u> Returns a shallow copy of dictionary dict
3	<u>dict.items()</u> Returns a list of dict's (key, value) tuple pairs
4	<u>dict.keys()</u> Returns list of dictionary dict's keys
5	<u>dict.setdefault(key, default = None)</u> Similar to get(), but will set dict[key] = default if key is not already in dict
6	<u>dict.update(dict2)</u> Adds dictionary dict2's key-values pairs to dict
7	<u>dict.values()</u> Returns list of dictionary dict's values



Questions.

1. Create dictionary to store 4 student details with rollno,name,age field.Search student in list.
2. Create dictionary for month and noofdays for a year. User is asked to enter month name and system will show no of days of that month.