



Chapter 9 Dictionary

Informatics Practices

Class XI (As per CBSE Board)

New
syllabus
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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'}
```



Dictionary

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 |



Dictionary

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.

