New syllabus 2022-23

Chapter 9
Dictionary

Informatics Practices

Class XI (As per CBSE Board)

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 <u>dictionary initialization</u>.

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)

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

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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'>)

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	len(dict)Gives the total length of the dictionary. It is equal to the number of items in the dictionary.
2	str(dict)Return a printable string representation of a dictionary
3	type(variable)If variable is dictionary, then it would return a dictionary type.

Built-in Dictionary Methods

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