Experiment No : 06

Aim : Write python programs to understand Built-in Set and String functions

Description :

Set :

A set is an unordered and mutable collection of unique elements. Sets are written with curly brackets ({}), being the elements separated by commas. The following code block shows two sets, containing a collection of numbers and cities.

String :

A string in Python is a sequence of characters. It is a derived data type. Strings are immutable. This means that once defined, they cannot be changed. Many Python methods, such as replace, join, or split modify strings. However, they do not modify the original string. They create a copy of a string which they modify and return to the caller.

Python string literals

Python strings can be created with single quotes, double quotes, or triple quotes. When we use triple quotes, strings can span several lines without using the escape character.

Implementation :

Code :

String :

```
# data type  set
#set
set1={1,2,3,4,5}
set2={"a","b","c"}
set3={True,False}
set4={"a",3,True,4,"b"}
set5=(("student",2,3,4,5))
# wnen you run program .Every time sequence will change. Means unordered.
#Set unindexsed data type.set unchangeble.but add items. remove items. duplicates are not allowed
print(set1, set2, set3, set4, set5)
print(len(set4))
set6={1,2,3,4,5,5}
print(set6)
#set items are unordered. Every time , execute the command it print differernt odered itemss.
#set are unindexed .set unchangeble , but add and remove items. Duplicates are not allowed.
#accsseing items
print(1 in set1)
print(8 in set1)
#add and remove items
```

```
set1.add(8)
print(set1)
#set1.remove(1)
#print(set1)
set1.discard(2)
print(set1)
#difference between discard and remove
#set1.remove(8)
#print(set1)
#remove method generate error
set1.discard(8)
print(set1)
#pop remove last element.at access time last element may be other than b.
#set4.pop()
#print(set4)
#empty set
#set4.clear
#print(set4)
#del set4
#print(set4)
# updating the set(items removing from one set and enter into another set)
set1.update(set2)
print(set1)
```

# union of set

set6=set3.union(set4)

print(set6)

#intersection of set(display common elements)

set6=set3.intersection(set4)

print(set6)

#symmetric difference of set(display uncommon elements)

set6=set3.symmetric_difference(set4)

print(set6)

#another way to update set(set3 and set4 uncommon values , updated set3)

set3.symmetric_difference_update(set4)

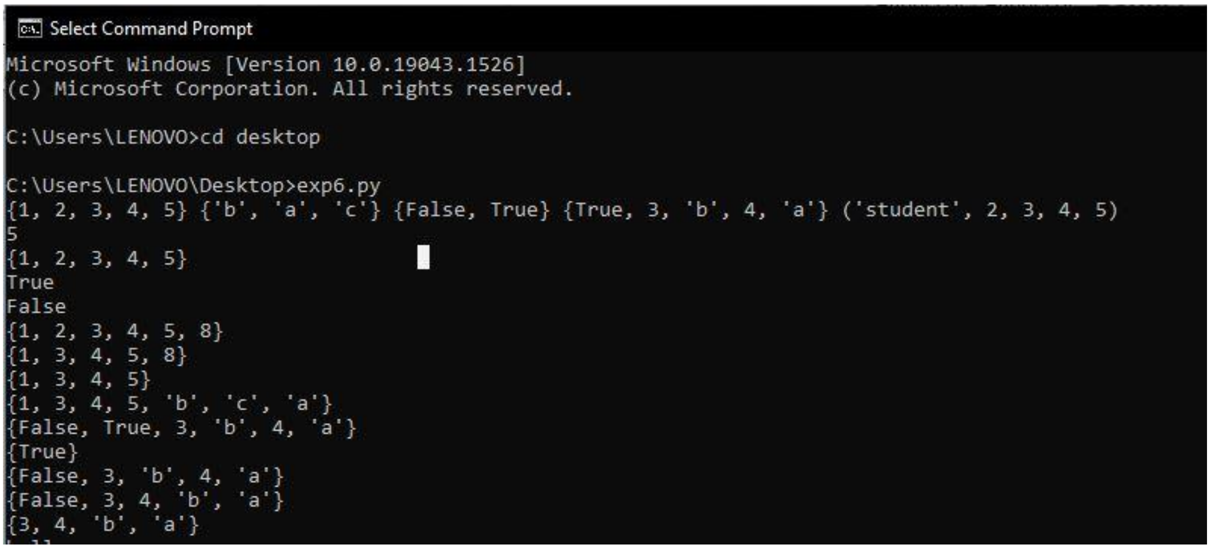
print(set3)

#updating set(set3 and set 4 common value and updating set3) always LHS set is updated

set3.intersection_update(set4)

print(set3)

Output :

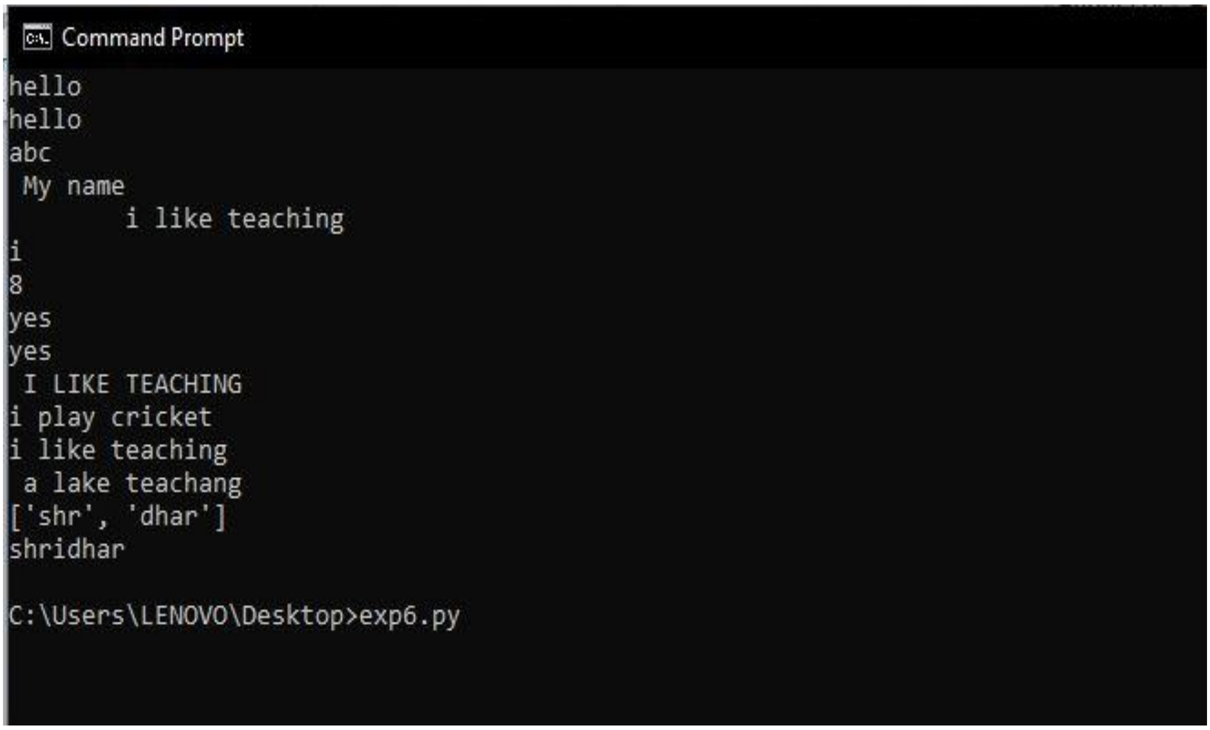


```
Microsoft Windows [Version 10.0.19043.1526]
(c) Microsoft Corporation. All rights reserved.

C:\Users\LENOVO>cd desktop

C:\Users\LENOVO\Desktop>exp6.py
{1, 2, 3, 4, 5} {'b', 'a', 'c'} {False, True} {True, 3, 'b', 4, 'a'} ('student', 2, 3, 4, 5)
5
{1, 2, 3, 4, 5}
True
False
{1, 2, 3, 4, 5, 8}
{1, 3, 4, 5, 8}
{1, 3, 4, 5}
{1, 3, 4, 5, 'b', 'c', 'a'}
{False, True, 3, 'b', 4, 'a'}
{True}
{False, 3, 'b', 4, 'a'}
{False, 3, 4, 'b', 'a'}
{3, 4, 'b', 'a'}
```

String :

```
#single and double quotes both are valid
print("hello")
print('hello')
a="abc"
print(a)
x= """ My name is anuradha kapoor
        i like teaching"""
x= ''' My name
        i like teaching  '''

print(x)

#array of bites. string as array. any specific character of string can redrive, access,print.
r=5
t=10
p=12
abc= "shridhar"
#abc= "shridhar{}"
#abc= "{} shridhar"

#abc= "{0}shri{1}dhar{2}"

print(abc[3])
print(len(abc))
z= " i like teaching"
if " like" in z:
 print("yes")
z=      " i like teaching "

if " dislike"  not in z:
 print("yes")
# upper case and lower case
y="I PLAY CRICKET"
print(z.upper())
print(y.lower())
# white spaces removal
print(z.strip())
# replace some of characters
print(z.replace("i", "a"))
print(abc.split("i"))
# i is seprator
#concatenation of string and no.

#b=abc+r

print(abc.format(r))
# more than one argument
#print(abc.format(r,t,p))
```

Output :



```
hello
hello
abc
 My name
        i like teaching
i
8
yes
yes
 I LIKE TEACHING
i play cricket
i like teaching
 a lake teachang
['shr', 'dhar']
shridhar

C:\Users\LENOVO\Desktop>exp6.py
```

Conclusion : Therefore we have successfully implemented Built-in Set and String functions in python.