SET

#Author - Soumitra Das **Date - 10/01/2023**

 # # (a) Create an empty set

set1=set()

print("The empty set is : ",set1)

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The empty set is : set()

#Author - Soumitra Das **Date - 10/01/2023**

 # (b) add some elements to it

set1=set()

print("The set is : ",set1)

set1.update({1,4,85,3})

print("After add some elements , the set is :",set1)

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The set is : set()

After add some elements , the set is : {1, 3, 4, 85}

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 # # (c) prove that set elements are unique

s2={1,1,1,2,2,4,5,6,3,3,4,3}

print("The set is : ",s2)

print("Set don't print the duplicate value, So set elements are unique.")

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The set is : {1, 2, 3, 4, 5, 6}

Set don't print the duplicate value, So set elements are unique.

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(d) create sets from list, tuple and string

li=[1,4,562,4,2,5,3]

print("The list is",li)

tu=(7,8,5,7,2,4,2)

print("The tuple is",tu)

st="Central Calcutta Polytechnic"

print("The string is",st)

print("The set from the list : ")

print(set(li))

print("The set from the tuple : ")

print(set(tu))

print("The set from the string : ")

print(set(st))

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The list is [1, 4, 562, 4, 2, 5, 3]

The tuple is (7, 8, 5, 7, 2, 4, 2)

The string is Central Calcutta Polytechnic

The set from the list :

{1, 2, 3, 4, 5, 562}

The set from the tuple :

{2, 4, 5, 7, 8}

The set from the string :

{' ', 'i', 'e', 'l', 'r', 'P', 'C', 'n', 'h', 'y', 't', 'u', 'o', 'c', 'a'}

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(e) use update() method to update a set

set1={1,2,3,4,5,2,1}

set2={7,8,9,4,5,2}

print("The first set is :",set1)

print("The second set is :",set2)

print("After update() method , the set is : ",end=' ')

set1.update(set2)

print(set1)

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The first set is : {1, 2, 3, 4, 5}

The second set is : {2, 4, 5, 7, 8, 9}

After update() method , the set is : {1, 2, 3, 4, 5, 7, 8, 9}

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(f) create a frozen set

fs={1,1,2,4,3,5,2}

print("The frozenset is :",end='')

print(frozenset(fs))

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The frozenset is :frozenset({1, 2, 3, 4, 5})

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 # # (g) use union and intersection method to do operations on sets

s3={1,2,3,4,5,6}

s4={5,6,7,8}

print("The first set is : ",s3)

print("The second set is : ",s4)

print("After union() method the set is : ")

print(s3.union(s4))

print("After intersection() method the set is : ")

print(s3.intersection(s4))

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The first set is : {1, 2, 3, 4, 5, 6}

The second set is : {8, 5, 6, 7}

After union() method the set is :

{1, 2, 3, 4, 5, 6, 7, 8}

After intersection() method the set is :

{5, 6}

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 # # (h) copy a set

import copy

```python
s5={1,2,3,4,5}
print("The original set is :",s5)
s6=copy.deepcopy(s5)
print("The copied set is :",s6)
print("The id of original set is :",id(s5))
print("The id of copied set is :",id(s6))
```

OUTPUT:

PS D:\Python\SET> python -u "d:\Python\SET\problem.py"

The original set is : {1, 2, 3, 4, 5}

The copied set is : {1, 2, 3, 4, 5}

The id of original set is : 1511929129536

The id of copied set is : 1511929129760