

문제 코드 :

OOP 과제

```
In [354]: 1 class Set :
2
3     def __init__(self, a):
4         input_list=[]
5         for i in a :
6             if i not in input_list :
7                 input_list.append(i)
8         self.answer=input_list
9
10    def __str__(self):
11        str_=' '
12        for i in self.answer:
13            str_+= str(i)
14        return '{'+ ' ', '.join(str_) +'}'
15
16    def add(self,elem):
17        if elem not in self.answer:
18            self.answer.append(elem)
19
20    def discard (self, elem):
21        if elem in self.answer:
22            self.answer.remove(elem)
23
24    def clear (self):
25        while True:
26            if not self.answer :
27                break
28            del self.answer[0]
29
30    def __len__(self):
31        num=0
32        for i in self.answer:
33            num += 1
34        return num
35
36    def __contains__(self,elem):
37        if elem in self.answer :
38            return True
39        else :
40            return False
41
```

```
42 def __le__(self, other):
43     check=[]
44     for i in self.answer :
45         if i in other :
46             check.append(1)
47         else :
48             check.append(0)
49     if 0 in check :
50         return False
51     else:
52         return True
53
54 def __ge__(self, other):
55     check=[]
56     for i in other.answer :
57         if i in self.answer :
58             check.append(1)
59         else :
60             check.append(0)
61     if 0 in check :
62         return False
63     else:
64         return True
65
66 def __or__(self, other):
67     output_list=[]
68     for i in self.answer :
69         if i not in output_list :
70             output_list.append(i)
71     for i in other.answer :
72         if i not in output_list :
73             output_list.append(i)
74     key = Set(output_list)
75     return key
76
77 def __and__(self, other):
78     output_list=[]
79     for i in self.answer :
80         if i in other.answer :
81             output_list.append(i)
82     key = Set(output_list)
83     return key
84
```

```
83         return key
84
85     def __sub__(self, other):
86         output_list=[]
87         for i in self.answer :
88             if i not in other.answer :
89                 output_list.append(i)
90         key = Set(output_list)
91         return key
92
93     def __ior__(self, other):
94         for i in other.answer:
95             if i not in self.answer:
96                 self.answer.append(i)
97         return self
98
99     def __iand__(self, other):
100         list_=[]
101         for i in other.answer:
102             if i in self.answer:
103                 list_.append(i)
104         self.answer=list_
105         return self
106
107     def __isub__(self, other):
108         output_list=[]
109         for i in self.answer :
110             if i not in other.answer :
111                 output_list.append(i)
112         self.answer=output_list
113         return self
114
115 ..
```

결과 코드 :

```
In [355]: 1 a = Set([1,2,3,4])
2 b = Set([1,2,3,4])
3
4 print(a)
5 print(b)
6 print()
7
8 a.discard(4)
9 b.discard(1)
10 print(a)
11 print(b)
12 print()
13
14 print(len(a))
15 print(1 in a)
16 print(1 in b)
17 print()
18
19 print(a | b)
20 print(a & b)
21 print(a - b)
22 print()
23
24 print(a <= b)
25 print(a <= a | b)
26 print(a >= b)
27 print(a >= a & b)
28 print()
29
30 b.clear()
31 print(b)
32 print()
33
34 a = Set([1,2,3])
35 b = Set([3,4])
36 address_a = id(a)
37 a |= b
38 print(a)
39 print(address_a == id(a))
40 print()
41
42 a = Set([1,2,3])
43 b = Set([3,4])
44 address_a = id(a)
45 a &= b
46 print(a)
47 print(address_a == id(a))
48 print()
49
```

```

41
42 a = Set([1,2,3])
43 b = Set([3,4])
44 address_a = id(a)
45 a &= b
46 print (a)
47 print (address_a == id(a))
48 print()
49
50 a = Set([1,2,3])
51 b = Set([3,4])
52 address_a = id(a)
53 a -= b
54 print (a)
55 print (address_a == id(a))
56 print ()

```

{1,2,3,4}
 {1,2,3,4}

{1,2,3}
 {2,3,4}

3
 True
 False

{1,2,3,4}
 {2,3}
 {1}

False
 True
 False
 True

{}

{1,2,3,4}
 True

{3}
 True

{1,2}
 True