문제 코드 :

OOP 과제

In [354]:

```
class Set :

    def __init__ (self, a):
        input_list=[]
        for i in a :
            if i not in input_list :
                input_list.append(i)
        self.answer=input_list

    def __str__(self):
        str_=''
        for i in self.answer:
            str_+= str(i)
        return '{'+ ','.join(str_) +'}'

    def add(self,elem):
        if elem not in self.answer:
            self.answer.append(elem)

    def discard (self, elem):
        if elem in self.answer:
            self.answer.remove(elem)

    def clear (self):
        while True:
            if not self.answer :
                break
            del self.answer[0]

    def __len__(self):
        num=0
        for i in self.answer:
            num += 1
        return num

    def __contains__(self,elem):
        if elem in self.answer :
            return True
        else :
            return False
```

```
    def __le__(self, other):
        check=[]
        for i in self.answer :
            if i in other :
                check.append(1)
            else :
                check.append(0)
        if 0 in check :
            return False
        else:
            return True

    def __ge__(self, other):
        check=[]
        for i in other.answer :
            if i in self.answer :
                check.append(1)
            else :
                check.append(0)
        if 0 in check :
            return False
        else:
            return True

    def __or__(self, other):
        output_list=[]
        for i in self.answer :
            if i not in output_list :
                output_list.append(i)
        for i in other.answer :
            if i not in output_list :
                output_list.append(i)
        key = Set(output_list)
        return key

    def __and__(self, other):
        output_list=[]
        for i in self.answer :
            if i in other.answer :
                output_list.append(i)
        key = Set(output_list)
        return key
```

```
        return key

    def __sub__(self, other):
        output_list=[]
        for i in self.answer :
            if i not in other.answer :
                output_list.append(i)
        key = Set(output_list)
        return key

    def __ior__(self, other):
        for i in other.answer:
            if i not in self.answer:
                self.answer.append(i)
        return self

    def __iand__(self, other):
        list_=[]
        for i in other.answer:
            if i in self.answer:
                list_.append(i)
        self.answer=list_
        return self

    def __isub__(self, other):
        output_list=[]
        for i in self.answer :
            if i not in other.answer :
                output_list.append(i)
        self.answer=output_list
        return self

```

결과 코드 :

In [355]:

```
a = Set([1,2,3,4])
b = Set([1,2,3,4])

print(a)
print(b)
print()

a.discard(4)
b.discard(1)
print(a)
print(b)
print()

print(len(a))
print(1 in a)
print(1 in b)
print()

print(a | b)
print(a & b)
print(a - b)
print()

print(a <= b)
print(a <= a | b)
print(a >= b)
print(a >= a & b)
print()

b.clear()
print(b)
print()

a = Set([1,2,3])
b = Set([3,4])
address_a = id(a)
a |= b
print (a)
print (address_a == id(a))
print()

a = Set([1,2,3])
b = Set([3,4])
address_a = id(a)
a &= b
print (a)
print (address_a == id(a))
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
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
```