In [27]:
```
#1

x = int(input())
y = int(input())
z = int(input())
n = int(input())
lst=[]
for i in range(0,x+1):
    for j in range(0,y+1):
        for k in range(0,z+1):
            if (i+j+k)!=n:
                lst.append([i,j,k])


print(lst)
```

```
2
3
4
2
[[0, 0, 0], [0, 0, 1], [0, 0, 3], [0, 0, 4], [0, 1, 0], [0, 1, 2], [0, 1, 3], [0, 1, 4], [0, 2, 1], [0, 2, 2], [0, 2,
3], [0, 2, 4], [0, 3, 0], [0, 3, 1], [0, 3, 2], [0, 3, 3], [0, 3, 4], [1, 0, 0], [1, 0, 2], [1, 0, 3], [1, 0, 4], [1,
1, 1], [1, 1, 2], [1, 1, 3], [1, 1, 4], [1, 2, 0], [1, 2, 1], [1, 2, 2], [1, 2, 3], [1, 2, 4], [1, 3, 0], [1, 3, 1],
[1, 3, 2], [1, 3, 3], [1, 3, 4], [2, 0, 1], [2, 0, 2], [2, 0, 3], [2, 0, 4], [2, 1, 0], [2, 1, 1], [2, 1, 2], [2, 1,
3], [2, 1, 4], [2, 2, 0], [2, 2, 1], [2, 2, 2], [2, 2, 3], [2, 2, 4], [2, 3, 0], [2, 3, 1], [2, 3, 2], [2, 3, 3], [2,
3, 4]]
```

In [28]:
```
#2

n   = int(input())
arr = map(int,input().split()[:n])
print(sorted(set(arr))[-2])
```

```
2
1 2 32 4 5 55 5 6
1
```

In [31]:
```
#3

n=int(input())
a=[]
marks=[]
while n>0:
    name=str(input())
    mark=float(input())
    marks.append(mark)
    data=[name,mark]
    a.append(data)
    n=n-1
b=set(marks)
lowest=min(b)
b.remove(lowest)
lowest2=min(b)
names=[]
for i in a:
    if i[1]==lowest2:
        names.append(i[0])
names.sort()
for i in names:
    print(i)
```

```
2
harsh
12
atul
13
atul
```

In [18]:
```
#4

n = int(input())
student_marks = {}
for _ in range(n):
    name, *line = input().split()
    scores = list(map(float, line))
    student_marks[name] = scores
query_name = input()
print(format(sum(student_marks[query_name])/3,".2f"))
```

```
2
nisha 23 525
priyanshi 26 45
nisha
182.67
```

In [19]:
```
#5

n=int(input())
list=[]
while n>0:
    command = input().split()
    if command[0]=='insert':
        list.insert(int(command[1]),int(command[2]))
    elif command[0]=='print'  :
        print(list)
    elif command[0]=='remove':
        list.remove(int(command[1]))
    elif command[0]=='append':
        list.append(int(command[1]))
    elif command[0]=='sort':
        list.sort()
    elif command[0]=='pop'   :
        list.pop()
    elif command[0]=='reverse' :
        list.reverse()
    n=n-1
```

```
2
insert 2 2
print
[2]
```

In [36]:
```
#6

n=int(input())
print(hash(tuple(int(item) for item in input().split())))
```

```
2
1 2
-3550055125485641917
```

In [12]:
```
#7

def average(array):
    return sum(list(set(array)))/len(list(set(array)))

if __name__ == '__main__':
    n = int(input())
    arr = list(map(int, input().split()))
    result = average(arr)
    print(result)
```

```
10
161 182 161 154 176 170 167 171 170 174
169.375
```

In [13]:
```
#8

a,b=(int(input()),input().split())
c,d=(int(input()),input().split())
x=set(b)
y=set(d)
p=y.difference(x)
q=x.difference(y)
r=p.union(q)
print(('\n'.join(sorted(r, key=int))))
```

```
4
2 4 5 9
4
2 4 11 12
5
9
11
12
```

In [14]:
```
#9

num = input()
dist = set()
for i in range(int(num)):
    dist.add(input())
print(len(dist))
```

```
2
1
2
2
```

In [16]:
```
#10

n = int(input())
s = set(map(int, input().split()))
t = int(input())

for i in range(t):

    c, *args = map(str,input().split())

    getattr(s,c) (*(int(x) for x in args))


print (sum(s))
```

```
1
1 2  3
1
remove 2
4
```

In [17]:
```
#11

n = input()
set_n = set(map(int, input().split()))
b = input()
set_b = set(map(int, input().split()))
print(len(set_n.union(set_b)))
```

```
9
1 2 3 4 5 6 7 8 9
9
10 1 2 3 11 21 55 6 8
13
```

In [18]:
```
#12

s1 = int(input())
sl1 = set(map(int,input().split()))
s2 = int(input())
sl2 = set(map(int,input().split()))
print (len(sl1.intersection(sl2)))
```

```
9
1 2 3 4 5 6 7 8 9
9
10 1 5 2 3 6 4 7
7
```

In [19]:
```
#13

n1 = int(input())
set_1 = set(map(int,input().split()))
n2 = int(input())
set_2 = set(map(int,input().split()))
print(len(set_1-set_2))
```

```
9
1 2 3 4 5 6 7 8 9
9
1 0 2 1 5 4 9 63
4
```

In [20]:
```
#14

a = set(input().split())
print(all(a > set(input().split()) for _ in range(int(input()))))
```

```
1 2 3 4 5 6 7 8 9 10 11 12 23 45 84 78
2
1 2 3 4 5
100 11 12
False
```

In [21]:
```
#15

n = int(input())

for i in range(n):
    a = int(input())
    set_a = set(input().split())
    b = int(input())
    set_b = set(input().split())
    out_set = set_a.difference(set_b)
    if len(out_set) == 0:
        print(True)
    else:
        print(False)
```

```
1
10
1 2 3 4 5 6 7 8 9 0
9
 5 9 99 8 5 2 21 4 5
False
```

In [22]:
```
#16

from collections import Counter
from collections import OrderedDict
n=input()

print(*[k for i, (k, v) in enumerate(OrderedDict(Counter(list(map(int,input().split())))).items()) if v==1 ])
```

```
5
1 2 3 6 5 4 4 2 5 3 6 1 6 5 3 2 4 1 2 5 1 4 3 6 8 4 3 1 5 6 2
8
```

In [25]:
```
#17


input()
L = set(input().split())
for _ in range(int(input())):
    command, *args = input().split()
    getattr(L, command)(set(input().split()))
print(sum(map(int, L)))
```

```
16
1 2 3 4 5 6 7 8 9 10 11 12 13 14 24 52
4
intersection_update 10
2 3 5 6 8 9 1 4 7 11
update 2
55 66
symmetric_difference_update 5
22 7 35 62 58
difference_update 7
11 22 35 55 58 62 66
38
```

In [26]:
```
#18

n1 = int(input())
e = set(input().split())

n2 = int(input())
f = set(input().split())

result = e.union(f) - e.intersection(f)
print(len(result))
```

```
9
1 2 3 4 5 6 7 8 9
9
10 1 2 3 11 21 55 6 8
8
```

In [ ]: