

# Set Mutations

We have seen the applications of *union*, *intersection*, *difference* and *symmetric difference* operations, but these operations do not make any changes or mutations to the set.

**We can use the following operations to create mutations to a set:**

**.update()** or **|=**

Update the set by adding elements from an iterable/another set.

```
>>> H = set("Hacker")
>>> R = set("Rank")
>>> H.update(R)
>>> print H
set(['a', 'c', 'e', 'H', 'k', 'n', 'r', 'R'])
```

**.intersection\_update()** or **&=**

Update the set by keeping only the elements found in it and an iterable/another set.

```
>>> H = set("Hacker")
>>> R = set("Rank")
>>> H.intersection_update(R)
>>> print H
set(['a', 'k'])
```

**.difference\_update()** or **-=**

Update the set by removing elements found in an iterable/another set.

```
>>> H = set("Hacker")
>>> R = set("Rank")
>>> H.difference_update(R)
>>> print H
set(['c', 'e', 'H', 'r'])
```

**.symmetric\_difference\_update()** or **^=**

Update the set by only keeping the elements found in either set, but not in both.

```
>>> H = set("Hacker")
>>> R = set("Rank")
>>> H.symmetric_difference_update(R)
>>> print H
set(['c', 'e', 'H', 'n', 'r', 'R'])
```

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## TASK

You are given a set  $A$  and  $N$  number of other sets. These  $N$  number of sets have to perform some specific mutation operations on set  $A$ .

Your task is to execute those operations and print the sum of elements from set  $A$ .

## Input Format

The first line contains the number of elements in set  $A$ .

The second line contains the space separated list of elements in set  $A$ .

The third line contains integer  $N$ , the number of other sets.

The next  $2 * N$  lines are divided into  $N$  parts containing two lines each.

The first line of each part contains the space separated entries of the *operation name* and the *length of the other set*.

The second line of each part contains space separated list of elements in the other set.

$$0 < \text{len}(\text{set}(\mathbf{A})) < 1000$$

$$0 < \text{len}(\text{otherSets}) < 100$$

$$0 < N < 100$$

## Output Format

Output the sum of elements in set  $\mathbf{A}$ .

## Sample Input

```
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
```

## Sample Output

38

## Explanation

After the first operation, (*intersection\_update operation*), we get:

$$\text{set } \mathbf{A} = \text{set}([1, 2, 3, 4, 5, 6, 7, 8, 9, 11])$$

After the second operation, (*update operation*), we get:

$$\text{set } \mathbf{A} = \text{set}([1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 55, 66])$$

After the third operation, (*symmetric\_difference\_update operation*), we get:

$$\text{set } \mathbf{A} = \text{set}([1, 2, 3, 4, 5, 6, 8, 9, 11, 22, 35, 55, 58, 62, 66])$$

After the fourth operation, (*difference\_update operation*), we get:

$$\text{set } \mathbf{A} = \text{set}([1, 2, 3, 4, 5, 6, 8, 9])$$

The sum of elements in set  $\mathbf{A}$  after these operations is **38**.