

# Set `.discard()`, `.remove()` & `.pop()`

## `.remove(x)`

This operation removes element  $x$  from the set.

If element  $x$  does not exist, it raises a `KeyError`.

The `.remove(x)` operation returns `None`.

### Example

```
>>> s = set([1, 2, 3, 4, 5, 6, 7, 8, 9])
>>> s.remove(5)
>>> print s
set([1, 2, 3, 4, 6, 7, 8, 9])
>>> print s.remove(4)
None
>>> print s
set([1, 2, 3, 6, 7, 8, 9])
>>> s.remove(0)
KeyError: 0
```

## `.discard(x)`

This operation also removes element  $x$  from the set.

If element  $x$  does not exist, it **does not** raise a `KeyError`.

The `.discard(x)` operation returns `None`.

### Example

```
>>> s = set([1, 2, 3, 4, 5, 6, 7, 8, 9])
>>> s.discard(5)
>>> print s
set([1, 2, 3, 4, 6, 7, 8, 9])
>>> print s.discard(4)
None
>>> print s
set([1, 2, 3, 6, 7, 8, 9])
>>> s.discard(0)
>>> print s
set([1, 2, 3, 6, 7, 8, 9])
```

## `.pop()`

This operation removes and return an arbitrary element from the set.

If there are no elements to remove, it raises a `KeyError`.

### Example

```
>>> s = set([1])
>>> print s.pop()
1
>>> print s
set([])
>>> print s.pop()
KeyError: pop from an empty set
```

## Task

You have a non-empty set  $s$ , and you have to execute  $N$  commands given in  $N$  lines.

The commands will be *pop*, *remove* and *discard*.

## Input Format

The first line contains integer  $n$ , the number of elements in the set  $s$ .

The second line contains  $n$  space separated elements of set  $s$ . All of the elements are non-negative integers, less than or equal to 9.

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

The next  $N$  lines contains either *pop*, *remove* and/or *discard* commands followed by their associated value.

## Constraints

$$0 < n < 20$$

$$0 < N < 20$$

## Output Format

Print the sum of the elements of set  $s$  on a single line.

## Sample Input

```
9
1 2 3 4 5 6 7 8 9
10
pop
remove 9
discard 9
discard 8
remove 7
pop
discard 6
remove 5
pop
discard 5
```

## Sample Output

4

## Explanation

After completing these 10 operations on the set, we get  $set([4])$ . Hence, the sum is 4.

**Note:** Convert the elements of set  $s$  to *integers* while you are assigning them. To ensure the proper input of the set, we have added the first two lines of code to the editor.