Fast addition

Your friend Wannabe_Gauss thinks he is quite fast at mathematics. When his teacher asked him to find out whether the sum of all numbers in a given set of numbers was divisible by 2 or not, he answered it all quite fast.

Annoyed by this, his teacher gives him a big list of such sets of numbers, and he realizes he is after all a wannabe. He is relying on your programming prowess to get past this hurdle. Don't disappoint him!

Input

A number **t** on the first line, showing number of test cases.
Each test case begins with a number **n** on first line showing number of numbers in that test case.
The next **n** lines contain one exactly one number each.

Output

T lines in output, one for each test case. "Y" if sum of that set is divisible by 2, else "N".

Example

Input:

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

Output:

```
N
Y
N
```

Constraints: 0 < t <= 50, 1 <= n <= 5000, each number is guaranteed to fit into a 32 bit integer.