C. Vlad Building Beautiful Array

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Vlad was given an array a of n positive integers. Now he wants to build a *beautiful* array b of length n from it.

Vlad considers an array *beautiful* if all the numbers in it are positive and have the same parity. That is, all numbers in the *beautiful* array are **greater** than zero and are either all even or all odd.

To build the array b, Vlad can assign each b_i either the value a_i or $a_i - a_j$, where any j from 1 to n can be chosen.

To avoid trying to do the impossible, Vlad asks you to determine whether it is possible to build a *beautiful* array b of length n using his array a.

Input

The first line of input contains an integer t ($1 \le t \le 10^4$) — the number of test cases.

Then follow the descriptions of the test cases.

The first line of each case contains a single integer n ($1 \le n \le 2 \cdot 10^5$) — the length of the array a.

The second line of each case contains n positive integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^9$) — the elements of the array a.

It is guaranteed that the sum of n over all cases does not exceed $2 \cdot 10^5$.

Output

Output t strings, each of which is the answer to the corresponding test case. As the answer, output "YES" if Vlad can build a *beautiful* array b, and "NO" otherwise.

You can output the answer in any case (for example, the strings "yEs", "yes", "Yes" and "YES" will be recognized as a positive answer).

Example

input Copy

```
7
5
2 6 8 4 3
5
1 4 7 6 9
4
2 6 4 10
7
5 29 13 9 10000001 11 3
5
2 1 2 4 2
5
2 4 5 4 3
4
2 5 5 4
```

output Copy

```
NO
YES
YES
YES
YES
NO
NO
```

Codeforces Round 874 (Div. 3)
Finished
Practice

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Clone Contest

→ Submit?

Language: GNU G++17 7.3.0

Choose file: Escolher arquivo Nenhu...colhido

Submit

→ Last submissions

Submission	Time	Verdict
207769297	May/29/2023 17:42	Accepted

→ Problem tags

greedy math *800

No tag edit access

→ Contest materials

- Announcement
- Tutorial

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