



HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

E. Add Modulo 10

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

You are given an array of n integers a_1, a_2, \ldots, a_n

You can apply the following operation an arbitrary number of times:

• select an index i ($1 \le i \le n$) and replace the value of the element a_i with the value $a_i + (a_i \mod 10)$, where $a_i \mod 10$ is the remainder of the integer dividing a_i by 10.

For a single index (value i), this operation can be applied multiple times. If the operation is applied repeatedly to the same index, then the current value of a_i is taken into account each time. For example, if $a_i=47$ then after the first operation we get $a_i=47+7=54$, and after the second operation we get $a_i=54+4=58$.

Check if it is possible to make **all** array elements equal by applying multiple (possibly zero) operations.

For example, you have an array [6, 11].

- Let's apply this operation to the first element of the array. Let's replace $a_1=6$ with $a_1+(a_1 \mod 10)=6+(6 \mod 10)=6+6=12$. We get the array [12,11].
- Then apply this operation to the second element of the array. Let's replace $a_2=11$ with $a_2+(a_2 \mod 10)=11+(11 \mod 10)=11+1=12$. We get the array [12,12].

Thus, by applying 2 operations, you can make all elements of an array equal.

Input

The first line contains one integer t ($1 \le t \le 10^4$) — the number of test cases. What follows is a description of each test case.

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

The second line of each test case contains n integers a_i ($0 \le a_i \le 10^9$) — array elements.

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

Output

For each test case print:

- · YES if it is possible to make all array elements equal;
- NO otherwise.

You can print YES and NO in any case (for example, the strings yEs, yes, Yes and YES will be recognized as a positive answer).

Example



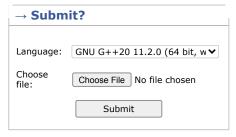
Finished Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest





→ Contest materials	
AnnouncementTutorial (en)	×

```
3
2 18 22
5 10 5 10 5
4 1 2 4 8
2
4 5
3
93 96 102
40 6
2
50 30
22 44
2
1 5
output
                                                                                        Сору
Yes
No
Yes
Yes
No
Yes
No
No
Yes
```

Note

No

The first test case is clarified above.

In the second test case, it is impossible to make all array elements equal.

In the third test case, you need to apply this operation once to all elements equal to 5.

In the fourth test case, you need to apply this operation to all elements until they become equal to 8.

In the fifth test case, it is impossible to make all array elements equal.

In the sixth test case, you need to apply this operation to all elements until they become equal to 102.

> Codeforces (c) Copyright 2010-2022 Mike Mirzayanov The only programming contests Web 2.0 platform Server time: Sep/21/2022 09:25:48^{UTC-3} (g1). Desktop version, switch to mobile version. Privacy Policy

Supported by



