

Mad Genius

Timelimit: 7 sec

Problem description

You just started out at RWTH and you have heard that you can win a car when you graduate with the exact grade 4.0. Since you are a mad genius, you know that you can solve any exam task perfectly, if you want to. Because you do not know the examination scheme, you decided that you only want to solve a task completely, or do not approach it at all. More specifically, you can either get all or none of the points for a specific task in the exam.

Find the tasks that you should solve to get a score that is exactly 50%, given that this is always possible.

Input

The input consists of:

- One line with one integer n ($1 \leq n \leq 10^3$), the total number of tasks.
- n lines follow, each line containing one integer p_i ($1 \leq p_i \leq 10^4$), the points you can get from task i .

The sum of the p_i is even and does not exceed 10^5 .

Output

Output n lines. Line i should consist of **NO** if task i should not be solved and of **YES** if it should be solved.

Sample input/output

Input	Output
5	
10	YES
12	NO
20	YES
7	NO
11	NO

There are five tasks. If you solve tasks 1 and 3 you gain exactly 30 points. The total number of points is 60 so you score exactly 50 percent.