C Cutting Banknotes

Philip is often faced with a big problem: after going out for dinner or having a few beers, he owes money to his friends or the other way around. These are often small amounts, but because Philip hates coins, his wallet contains only banknotes. Therefore he usually can't pay the amount exactly. Since he hates coins, he also doesn't allow his friends to return them as change. He does allow for banknotes as change though.

To accomodate for this problem, he and his friends came up with the following idea: let's pay with pieces of banknotes. To make the cutting easy, they only cut banknotes in two equally-sized pieces, cut those pieces in two pieces, and so on. This yields a much larger range of amounts that can be paid. Philip wonders which ones exactly.

Input

On the first line an integer t ($1 \leq t \leq 100$): the number of test cases. Then for each test case:

- One line with a number x ($0.01 \leq x \leq 10\,000.00$): the amount Philip has to pay. This is formatted with two decimal digits and a period as decimal separator.
- One line with a positive integer n ($1 \leq n \leq 1\,000$): the number of different banknotes.
- n lines, each with an integer b_i ($1 \leq b_i \leq 10\,000$): the values of the banknotes.

Output

For each test case:

- One line with "`yes`" if the amount can be paid exactly and "`no`" otherwise.

Sample in- and output

Input	Output
4 10.75 3 2 10 20 0.33 1 1 10000.00 1 2500 1.00 2 3 5	yes no yes yes