B. Modulo Sum

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

You are given a sequence of numbers $a_1, a_2, ..., a_n$, and a number m.

Check if it is possible to choose a non-empty subsequence a_{i_j} such that the sum of numbers in this subsequence is divisible by m.

Input

The first line contains two numbers, n and m ($1 \le n \le 10^6, 2 \le m \le 10^3$) — the size of the original sequence and the number such that sum should be divisible by it.

The second line contains n integers $a_1, a_2, ..., a_n$ ($0 \le a_i \le 10^9$).

Output

In the single line print either "YES" (without the quotes) if there exists the sought subsequence, or "NO" (without the quotes), if such subsequence doesn't exist.

Examples

input
3 5 1 2 3
output
YES

input
1 6 5
output
NO

input
4 6 3 1 1 3
output
YES

input
6 6 5 5 5 5 5 5
output
YES

Note

In the first sample test you can choose numbers 2 and 3, the sum of which is divisible by 5.

In the second sample test the single non-empty subsequence of numbers is a single number 5. Number 5 is not divisible by 6, that is, the sought subsequence doesn't exist.

In the third sample test you need to choose two numbers 3 on the ends.

In the fourth sample test you can take the whole subsequence.