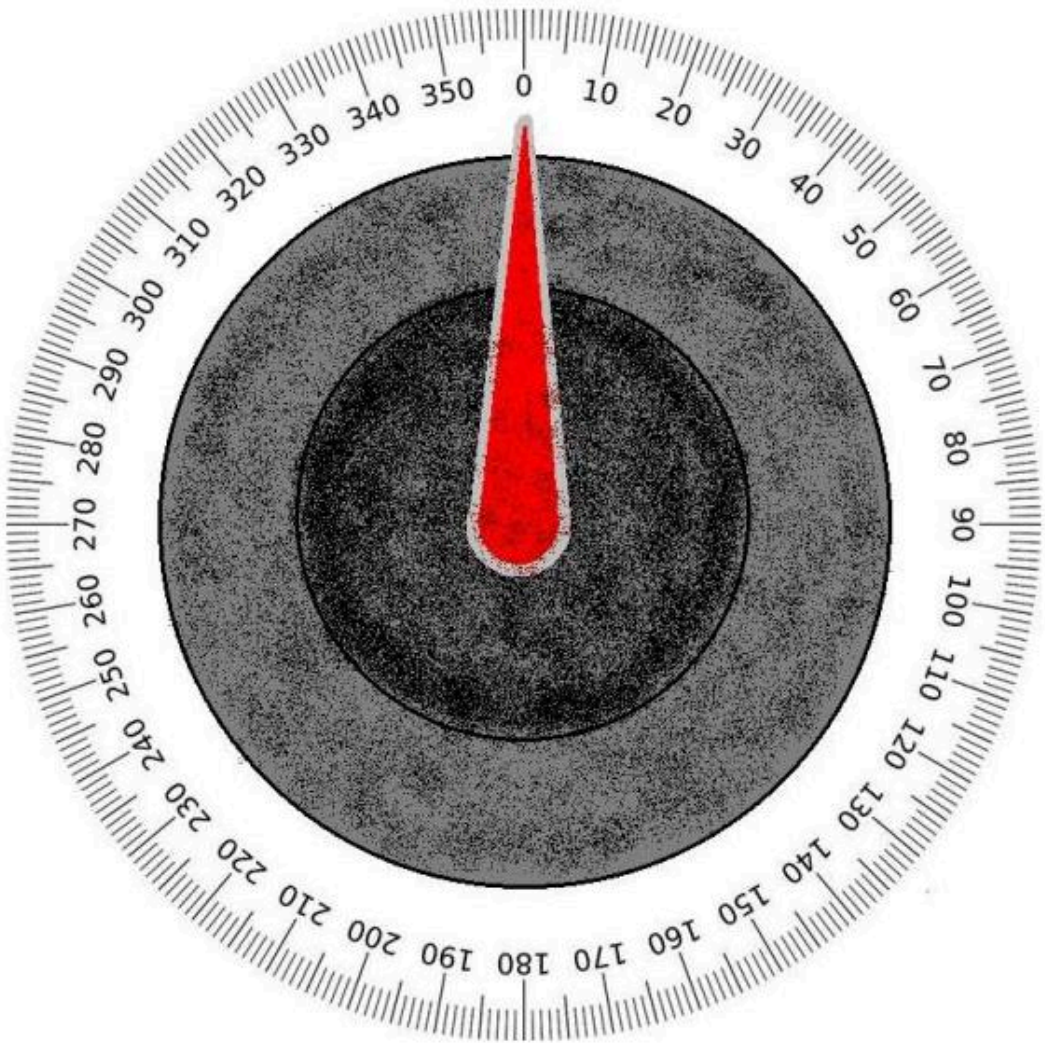
C. Petr and a Combination Lock

time limit per test: 1 second

memory limit per test: 256 megabytes

Petr has just bought a new car. He's just arrived at the most known Petersburg's petrol station to refuel it when he suddenly discovered that the petrol tank is secured with a combination lock! The lock has a scale of 360 degrees and a pointer which initially points at zero:



Petr called his car dealer, who instructed him to rotate the lock's wheel exactly n times. The i-th rotation should be a_i degrees, either clockwise or counterclockwise, and after all n rotations the pointer should again point at zero.

This confused Petr a little bit as he isn't sure which rotations should be done clockwise and which should be done counterclockwise. As there are many possible ways of rotating the lock, help him and find out whether there exists at least one, such that after all n rotations the pointer will point at zero again.

Input

The first line contains one integer n ($1 \le n \le 15$) — the number of rotations.

Each of the following n lines contains one integer a_i ($1 \le a_i \le 180$) — the angle of the i-th rotation in degrees.

Output

If it is possible to do all the rotations so that the pointer will point at zero after all of them are performed, print a single word "YES". Otherwise, print "NO". Petr will probably buy a new car in this case.

You can print each letter in any case (upper or lower).

Examples

input	Copy
3 10 20 30	

output	Copy
YES	

input	Copy
3 10 10 10	

output	Copy
NO	

ICPC Assiut University Training - Juniors Phase 1 Sheets-2022

Public

Participant

→ Group Contests

- Juniors Phase 1 Practice #5 (Bitmask, Bitset, Bits)
- Juniors Phase 1 Practice #4 (Binary search , Two pointers)
- Juniors Phase 1 Practice #3 (STL 2)
- Juniors Phase 1 Practice #2 (STL 1)
- Juniors Phase 1 Practice #1 (Prefix sum , Frequency Array)

Juniors Phase 1 Practice #5 (Bitmask, Bitset, Bits)

Finished

Practice

→ About Time Scaling

This contest uses time limits scaling policy (depending on a programming language). The system automatically adjusts time limits by the following multipliers for some languages. Despite scaling (adjustment), the time limit cannot be more than 30 seconds. Read the details by the link.

→ 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

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
228261379	Oct/15/2023 11:00	Accepted
228146610	Oct/14/2023 12:39	Accepted

input	Copy
3 120 120 120	

output	Copy
YES	

Note

In the first example, we can achieve our goal by applying the first and the second rotation clockwise, and performing the third rotation counterclockwise.

In the second example, it's impossible to perform the rotations in order to make the pointer point at zero in the end.

In the third example, Petr can do all three rotations clockwise. In this case, the whole wheel will be rotated by 360 degrees clockwise and the pointer will point at zero again.