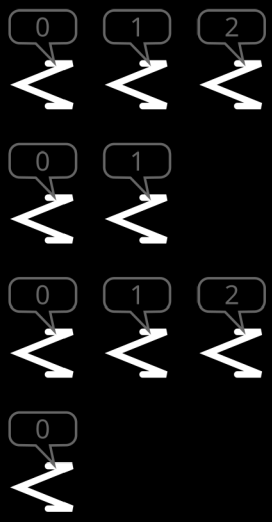
A. Destroyer

time limit per test: 1 second
memory limit per test: 256 megabytes

John is a lead programmer on a destroyer belonging to the space navy of the Confederacy of Independent Operating Systems. One of his tasks is checking if the electronic brains of robots were damaged during battles.

A standard test is to order the robots to form one or several lines, in each line the robots should stand one after another. After that, each robot reports the number of robots standing in front of it **in its line**.



An example of robots' arrangement (the front of the lines is on the left). The robots report the numbers above.

The i-th robot reported number l_i. Unfortunately, John does not know which line each robot stands in, and can't check the reported numbers. Please determine if it is possible to form the lines in such a way that all reported numbers are correct, or not.

Input

The first line contains a single integer t ($1 \le t \le 100$), denoting the number of test cases.

The first line in each test case contains a single integer n ($1 \le n \le 100$) — the number of robots.

The second line in each test case contains n integers $l_1, l_2, \ldots, l_n$ ($0 \le l_i < 100$), l_i is equal to the number of robots in front of the i-th robot in its line.

The sum of n over all test cases won't exceed 200.

Output

For each test case, output "**YES**", if there exists a robot arrangement consistent with robots' reports. Otherwise, output "**NO**".

You can output the answer in any case (upper or lower). For example, the strings "**yEs**", "**yes**", "**Yes**", and "**YES**" will be recognized as positive responses.

Example

input Copy

```
5
6
```

Codeforces Round 880 (Div. 2)
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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

→ Clone Contest to Mashup

→ Submit?

Language: GNU G++17 7.3.0

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
347297319	Nov/03/2025 20:02	Accepted
347297104	Nov/03/2025 20:01	Wrong answer on test 22

→ Problem tags

implementation sortings *800

No tag edit access

→ Contest materials

- Announcement (en)
- Tutorial (en)

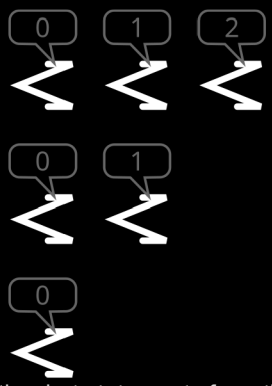
```
0 1 2 0 1 0
9
0 0 0 0 1 1 1 2 2
3
0 0 2
1
99
5
0 1 2 3 4
```

output Copy

```
YES
YES
NO
NO
YES
```

Note

Example arrangement consistent with robot statements from the first example test case:



Example arrangement consistent with robot statements from the second example is shown in the statement.

In the third test case, the third robot claims that there are two machines in front of it. In such a case, the robot directly in front of it would have one machine in front. No robot claims that, so there is no valid arrangement.