Project Euler #105: Special subset sums: testing

This problem is a programming version of Problem 105 from projecteuler.net

Let $S(A)$ represent the sum of elements in set A of size n. We shall call it a special sum set if for any two non-empty disjoint subsets, B and C, the following properties are true:

- $S(B) \neq S(C)$; that is, sums of subsets cannot be equal.
- If B contains more elements than C then $S(B) > S(C)$.

For example, $\{81, 88, 75, 42, 87, 84, 86, 65\}$ is not a special sum set because $65 + 87 + 88 = 75 + 81 + 84$, whereas $\{157, 150, 164, 119, 79, 159, 161, 139, 158\}$ satisfies both rules for all possible subset pair combinations.

Your task is to determine whether the given set is a special sum set.

Input Format

First line contains an integer T denoting the number of test cases.
Each test case consists of two lines. First of them contains the only integer n - the size of the set. Second line contains n integers $a_1, a_2, \ldots, a_n$.

Constraints
$1 \leq T \leq 10$
$1 \leq n \leq 100$
$1 \leq a_i \leq 10^6$

Output Format

For each of T test cases print one line containing a single word YES, if the given set is a special sum set, and NO otherwise.

Sample Input

```
2
8
81 88 75 42 87 84 86 65
9
157 150 164 119 79 159 161 139 158
```

Sample Output

```
NO
YES
```