Social Network Existence

Julia and Robert were just talking about their own social network which they are now working on, when someone interrupted them unexpectedly.

- "Hi, I've got my own social network too" - said Adam, who always likes to say something.

- "Really? And how many registered users do you have?

- "Only four".

- "Oh, so please tell us the structure of your network. How many friends does each of your members have? - asked Robert with some interest.

- "One member has three friends, another one has two friends and the two others have only one friend each."

- "Are you sure?"

- "Yes."

- "And if A is a friend of B, then B is also a friend of A?"

- "Yes."

Robert looked at Julia with a dose of disbelief on his face.

- "Adam is a liar" - said Julia, and neither Julia nor Robert wanted to talk to him anymore.

Over the next few days Adam was thinking how it was possible that they were so sure that he was lying. And do you know?

Given the number of members of the social network and the data about the number of friends each of them is connected to decide if such a network may exist or not.

Input

The input consists of a sequence of lines. In the first line you are given $t<3000$ - the number of networks to analyze. The description of each of the networks consists of two lines: in the first line you are given one number $n<=200$ (the number of network users) and in the second line you are given n nonnegative integers describing the number of friends of each of the network members (all of these numbers are smaller than 200).

Output

For each of the networks print in a separate line one of the two words: POSSIBLE if such a network might exist and IMPOSSIBLE in the opposite case.

Example

Input:

```
4
3
1 2 2
4
3 2 3 2
5
2 2 4 2 2
4
0 0 0 0
```

Output:
IMPOSSIBLE
POSSIBLE
POSSIBLE
POSSIBLE

Scoring

By solving this problem you score 10 points.