

The country you live in is actually a land of rivers. Almost every city of the country is surrounded by rivers. Fortunately there are many bridges in the country that connect the cities. Suddenly the country is under attack and the opposition is trying to destroy the bridges to isolate the cities. You, as a commander of a sector, now want to know the current status of the sector. The sector consists of  $N$  cities. You asked your assistant to collect the current connectivity information of the sector. But he could only manage to get  $d_i$  for each of the cities in the sector. Here  $d_i$  represents the number of different cities to which city  $i$  is directly connected. Note that a city is not considered to be connected with itself. Now, you want to draw a graph that is consistent with the information. You also want to give each of the cities a color such that directly connected cities do not have same color. But you have only two colors to use. You want to know whether such a graph can be drawn.

## Input

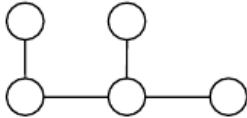
Input starts with an integer  $T$  ( $\leq 500$ ), denoting the number of test cases. Each case starts with a line containing an integer  $N$  ( $2 \leq N \leq 20$ ). The next line contains  $N$  integers  $d_i$  ( $0 \leq d_i \leq N$ ).

## Output

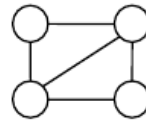
For each case, print the case number and 'YES' if it's possible to draw such a graph or 'NO' if it isn't.

### Notes:

For case 2, you can draw the following graph



For case 3, you can draw the following graph, but using only two colors it can't be colored.



## Sample Input

```

4
4
3 1 3 3
5
1 2 1 1 3
4
2 3 2 3
7
4 1 2 3 1 2 3

```

## Sample Output

```

Case 1: NO
Case 2: YES
Case 3: NO
Case 4: YES

```