

Illuminati

The *Bavarian Illuminati* were a secret society founded on May 1st, 1776, by Adam Weishaupt, professor of Canon Law and Practical Philosophy at the University of Ingolstadt. The society's goals were to oppose superstition, obscurantism, religious influence over public life and abuses of state power¹.

With the aim of expanding across Europe, every time they set a new chapter they appointed a new warden who was in charge of recruiting as many members as he could. Once the chapter had enough available members, they created a new chapter in a different location. The only restriction to decide whether they had enough members for a new chapter was that the i^{th} chapter that was created should have at least as many members as the i^{th} term of the Fibonacci sequence. Depending on the area of influence of each chapter, they estimated that they needed a maximum of 100 chapters to watch over Europe.

Our purpose is to develop an algorithm that confirms that, with the planned number of members for each chapter, the Illuminati can influence all Europe.

In addition to coding the solution, you have to specify the algorithm, write the invariant and termination function of your loops and calculate the complexity of your algorithm.

Input

Each plan is described in two lines. The first one contains the number of chapters they plan to create, while the second contains the number of members in each chapter.

The input ends when a plan has no chapters (and it must not be processed).

Output

The output of each level is an independent line saying YES if the plan can be used to control Europe and NO otherwise.

Sample input

```
5
0 1 1 2 3
5
1 2 3 4 5
5
13 21 6 2 8
7
0 1 1 2 3 5 7
0
```

Sample output

```
YES
YES
YES
NO
```

Notes

This exercise must be understood in the context of the *Data Structures and Algorithms* course, FDI-UCM 2016/2017 (prof. Gonzalo Méndez). Therefore, the only valid solutions are those that use the concepts studied in this course. Additional remarks may be provided in class.

¹<https://en.wikipedia.org/wiki/Illuminati>