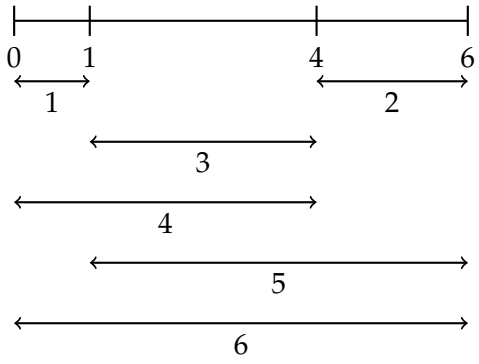
Gerard the handyman **P41570_en**

Vint-i-tresè Concurs de Programació de la UPC - Final (2025-09-17)

Gerard the handyman is a resourceful fellow. He loves to tinker with and repair his bike. Unfortunately, he has lost one of his precious tools: his ruler.

To compensate, he takes a bar of length 6 cm and marks two points on it, at 1 cm and 4 cm. With these marks, he can now measure any integer length from 1 to 6. Moreover, each measurement can be made in exactly one way:



Given a bar of length n and k marked points given in increasing order, please determine whether it is possible to measure all lengths from 1 to n. Additionally, determine whether each measurable length can be obtained in a unique way or in multiple ways.

Input

Input consists of several cases, each one with n and k, followed by the positions p_i of the points. Assume $2 \leq n \leq 1000$, $1 \leq k < n$, and $1 \leq p_1 < p_2 < \cdots < p_k < n$.

Output

For every case, print "`YES`" or "`NO`" followed by "`unique`" or "`multiple`", depending on the answer.

Sample input

```
6 2  1 4
72 9  1 4 13 28 33 47 54 64 70
72 10  1 4 9 19 24 31 52 56 58 69
10 4  1 2 3 6
```

Sample output

```
YES unique
NO unique
NO multiple
YES multiple
```

Problem information

Author : Joan Alemany
Generation : 2025-09-15 20:10:28