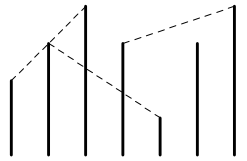
High Rise

Computer Science Society
Programming Contest
Fall 2005

A row of equidistant high-rise buildings stands along one side of a straight road. Viewed from across the road (and sufficiently far away), they appear as equally-spaced matchsticks of various heights:



In this problem, we determine whether or not there is a view—from the top of one building to the top of another—that is unobstructed by buildings in between. In the example pictured above, there is an unobstructed view from 4 to 7 and from 1 to 3 (co-linear tops don't obstruct), but not from 2 to 5. Write a program that can input a list of heights of high-rise buildings in a row and a pair of building numbers, and determine whether or not there is an unobstructed view from the top of one building to the top of the other.

Input Format

Each line of input begins with either a `row` command (which establishes a new row of building heights) or a `view` command (which identifies a pair of buildings), followed by some positive integers. A `row` command is followed by the number $n \geqslant 2$ of buildings in the new row and n integer building heights $0 < y_i < 2^{31}$ for $i = 1, 2, 3, \ldots, n$. A `view` command is followed by a pair of building numbers j, k such that $1 \leqslant j < k \leqslant n$, where n is the number of buildings in the current row. The first line of input always contains a `row` command.

Output Format

For each `view` command, output a line containing `yes` if there is an unobstructed view from the top of building j to the top of building k in the current row of high-rise buildings, or `no` otherwise.

Input Sample

```
row 7   2 3 4 3 1 3 4
view 4 7
view 1 3
view 2 5
row 4   1 2 3 3
view 1 4
```

Output Sample

```
yes
yes
no
no
```