# HILL

An extraterrestrial team of contestants, known as "the aliens", is coming to Plovdiv for the IOI. They would like to land their flying saucer on one of Plovdiv's hills, but they have no map of the city, so they need to use their laser scanner to find a hill. The aliens have divided the city into a grid of **N** by **M** cells, and each time they use the scanner they can determine the altitude of a single cell. Their scanner is so precise that no two cells would ever have the same altitude.

The aliens define a hill as a cell that has higher altitude than all of its adjacent cells. Two cells are considered adjacent if they share a side. Thus typically each cell has four adjacent ones, with the cells on the border of the grid being the exception (they have less than four adjacent cells).

The aliens have time for only 3,050 scans before their saucer hits the ground. Help the aliens find a hill before they run out of time.

### TASK
Write a program that, given the dimensions of the grid, interactively uses the scanner to determine the location of a hill, while doing no more than 3,050 scans in total.

### CONSTRAINTS
$1 \leq$ **N, M** $\leq 1,000$            The dimensions of the grid
$1 \leq$ **$A_{x,y}$** $\leq 2,000,000,000$     The altitude of cell **<$x$,$y$>**

### INPUT
Your program should read from the standard input a single line with two integers **N** and **M**, separated by a single space.
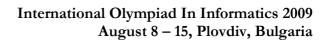
### INTERACTION
After reading the input data, your program should start using the laser scanner. Each time you want to use the scanner for a cell with coordinates **$x$** and **$y$** ($1 \leq x \leq N$, $1 \leq y \leq M$), you should print a single line on the standard output, containing three integers separated by single spaces: 0 (a literal zero), **$x$** and **$y$**, in this order.

After submitting your request to the scanner, you should read a single line on the standard input. It will contain a single integer: the altitude of the cell with coordinates **$x$** and **$y$** in some alien units.

### OUTPUT
When your program has determined the location of a hill **<$a$, $b$>** ($1 \leq a \leq N$, $1 \leq b \leq M$), you should report your answer by printing a single line on the standard output, containing three integers separated by single spaces: 1 (a literal one), **$a$** and **$b$**, in this order.

**IMPORTANT NOTE:** In order to interact properly with the scanner, your program needs to flush the standard output after every line that you print on the standard output. Please see the technical info sheet for instructions on how to do this properly.

## EXAMPLE

| Sample Input | Sample Output |
|---|---|
| 3 2<br><br>3<br><br>4<br><br>1<br><br>7<br><br>6 | 0 1 1    **[flush stdout/output]**<br><br>0 2 1    **[flush stdout/output]**<br><br>0 3 1    **[flush stdout/output]**<br><br>0 1 2    **[flush stdout/output]**<br><br>0 2 2    **[flush stdout/output]**<br><br>1 1 2    **[flush stdout/output]** |