

# Problem F

## Finding Lines

Time limit: 4 seconds

Annabel and Richard like to invent new games and play against each other. One day Annabel has a new game for Richard. In this game there is a game master and a player. The game master draws  $n$  points on a piece of paper. The task for the player is to find a straight line, such that at least  $p$  percent of the points lie exactly on that line. Richard and Annabel have very good tools for measurement and drawing. Therefore they can check whether a point lies exactly on a line or not. If the player can find such a line then the player wins. Otherwise the game master wins the game.

There is just one problem. The game master can draw the points in a way such that it is not possible at all to draw a suitable line. They need an independent mechanism to check whether there even exists a line containing at least  $p$  percent of the points, i.e.,  $\lceil n \cdot p/100 \rceil$  points. Now it is up to you to help them and write a program to solve this task.

### Input

The input consists of:

- one line with one integer  $n$  ( $1 \leq n \leq 10^5$ ), the number of points the game master has drawn;
- one line with one integer  $p$  ( $20 \leq p \leq 100$ ), the percentage of points which need to lie on the line;
- $n$  lines each with two integers  $x$  and  $y$  ( $0 \leq x, y \leq 10^9$ ), the coordinates of a point.

No two points will coincide.

### Output

Output one line containing either “possible” if it is possible to find a suitable line or “impossible” otherwise.

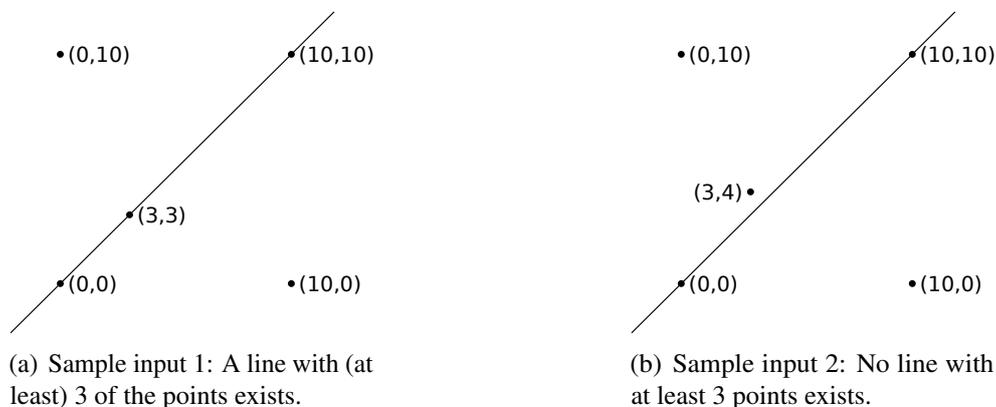


Figure F.1: Illustration of the sample inputs

**Sample Input 1**

```
5
55
0 0
10 10
10 0
0 10
3 3
```

**Sample Output 1**

```
possible
```

**Sample Input 2**

```
5
45
0 0
10 10
10 0
0 10
3 4
```

**Sample Output 2**

```
impossible
```