Lazar got lost somewhere in the Cartesian plane, containing n straight lines. The only way to escape is by moving through a special point – a beautiful point. A point is called beautiful if it is an intersection point of at least lines and it has integer coordinates. Your task is to find a beautiful point and save Lazar.

**Input**

The first line of the file **intersection.in** contains an integer n – the number of straight lines. The next n lines comprise of 2 pairs of integers – the coordinates of the points, which denote the respective line: and (, ).

**Output**

On the first line of the file **intersection.out** print 2 integers – the coordinates of the beautiful point. On the next line print m – the number of lines which define the beautiful point. The last line should contain m numbers – the indexes of the lines that you have chosen.

**Constraints**

**It is guaranteed that a beautiful point exists.**

**Time limit: 0.3 sec.**

**Memory limit: 256 MB**

**Sample test**

|  |  |
| --- | --- |
| **Input (intersection.in)** | **Output (intersection.out)** |
| 12  4 7 2 7  8 9 3 3  8 2 5 2  6 4 0 5  8 5 1 2  8 12 6 6  1 8 3 3  5 3 8 0  14 15 8 7  7 4 4 6  9 8 5 6  3 8 9 4 | 5 3  3  6 8 9 |