Problem 6: An exact pile of tiles

Willard Fleming is a different breed of cat. He has a recurring dream that he is a prisoner on a submarine. He insists on brushing his teeth with hot, not cold, water. He puts all the string that he saves under his bed. Every morning, at breakfast, he counts the tiles in his kitchen. He collects wallets. He has a morbid fear of electricity and will sometimes hire a tradesperson to change light bulbs and similar minor repairs. He believes that P=NP. He saves price tags as well as receipts. He teaches Computer Science classes.

Willard is contemplating putting new flooring throughout his house, but he has an important constraint: no tiles must be cut in the process of tiling any room. The floor of every room must be completely tiled, and all tiles in a particular room must be orientated the same way. This will make it easier for him to count tiles in any room that he is in because he won't have to estimate, and subsequently, add fractions of tiles into the total. Of course Willard is quite happy to put different tiles in each room to make counting them more interesting.

Fortunately, the dimensions of every room in Willard's house are an integral (integer) number of units on each side and every room is a perfect rectangle. As well, Willard has found a tile manufacturer that offers a variety of tile sizes, all of which, by coincidence are also an integral (integer) number of units on each side. Of course, the tiles are rectangular.

The manufacturer, who offers the different sizes for aesthetic reasons, and not to satisfy the somewhat compulsive behaviors of the likes of Willard Fleming, is somewhat taken aback by Willard's request that the manufacturer guarantee that a particular size of tile will *exactly* cover a room (i.e., the whole floor is covered, and no tile is cut). However, the manufacturer is business minded and asks you to write a simple computer program. This program will help the manufacturer match tile sizes up for each room in Willard's house and meet Willard's strange request.

INPUT

The input contains a number of lines with each line representing a single room in the house and a possible tile to be used in that room. Each line contains 4 integer values. The first two values are the dimensions of a room and the last two values are dimensions of a tile. The last line of the data contains a zero value in the first position.
No room is larger then 250 x 250, no tile is larger then 50 x 50, and Willard's house has no more then 100 rooms.

OUTPUT

Each line represents the answer for a particular room (the first line for the first room, the second line for the second room, etc.). If the room can be exactly tiled with the tiles of the given dimensions then the line should consist of the word "yes". Otherwise the line should consist of the word "no".

SAMPLE INPUT

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50 70 2 3
100 20 4 5
25 30 6 5
0 0 0 0
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SAMPLE OUTPUT

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Problem 6 by team X
no
yes
yes
End of problem 6 by team X
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Practice bonus question:

Consider the same problem but remove the constraint that all tiles in a particular room must be in the same orientation.