

BIN PACKING 2D

There is a container having horizontal size W and vertical size H . There are N rectangle items 1, 2, ..., N in which item i has horizontal size w_i and vertical size h_i . Find the way to place these N items into the container such that:

- The sides of items are packed in parallel with the sides of the container
- The items can be rotated 90, 180, 270 degree
- No two items overlap

INPUT

The input consists of following lines:

- Line 1: contains two integers H and W
- Each line $i+1$ of the following lines (terminated by -1) contains two integer w_i and h_i

OUTPUT: Display the result under HTML format for visualization

EXAMPLE

