



Central European Olympiad in Informatics  
Tîrgu Mureş, Romania  
July 8 – 14, 2009  
Day 1

## photo

100 points

Source code: `photo.c`, `photo.cpp`, `photo.pas`  
Input files: `photo.in`  
Output files: `photo.out`  
Time limit: 1.0 s  
Memory limit: 16 MB

## Task

You are given a photo of the skyline of Târgu-Mureş taken during the night. Some rooms still have the light on. You know that all the buildings can be modeled by rectangles of surface area at most **A**. Find the minimum number of buildings that can lead to the picture.

Specifically, you are given an integer **A**, and **N** points at integer coordinates  $(x, y)$ . You must find a minimum number of rectangles that have one side on the  $x$ -axis and area at most **A**, which cover all points. The rectangles may overlap.

## Description of input

The first line of the input file `photo.in` will contain two integers **N** and **A**, separated by a single space. The next **N** lines will contain two integers **x** and **y**, representing the coordinates of each point.

## Description of output

The output file `photo.out` should consist of exactly one line containing the minimum number of rectangles.

## Constraints

- $1 \leq N \leq 100$
- $1 \leq A \leq 200\ 000$
- Each point has  $0 \leq x \leq 3\ 000\ 000$  and  $1 \leq y \leq A$
- For 30% of the test cases,  $1 \leq N \leq 18$



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## Example

| photo.in                                      | photo.out | Here is one possible picture that explains the example: |
|---|-----------|---|
| 6 4<br>2 1<br>4 1<br>5 1<br>5 4<br>7 1<br>6 4 | 3         |   |