Problem H. Hard Cuts

Input file:	hard.in
Output file:	hard.out
Time limit:	2 seconds
Memory limit:	256 megabytes

Given a rectangle with integer side lengths, your task is to cut it into the smallest possible number of squares with integer side lengths.

Input

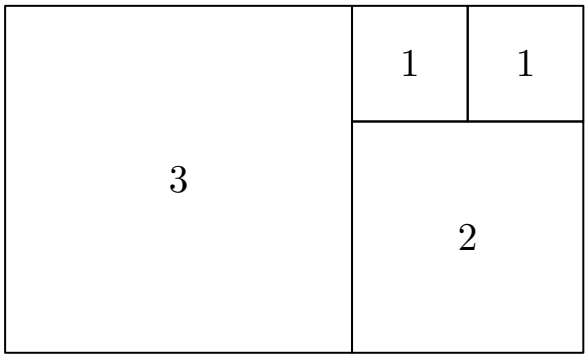
The first line contains a single integer T — the number of test cases ($1 \le T \le 3600$). Each of the next T lines contains two integers w_i, h_i — the dimensions of the rectangle ($1 \le w_i, h_i \le 60$; for any $i \ne j$, either $w_i \ne w_j$ or $h_i \ne h_j$).

Output

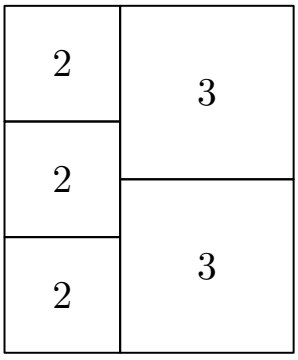
For the i-th test case, output k_i — the minimal number of squares, such that it is possible to cut the w_i by h_i rectangle into k_i squares. The following k_i lines should contain three integers each: x_{ij}, y_{ij} — the coordinates of the bottom-left corner of the j-th square and l_{ij} — its side length ($0 \le x_{ij} \le w_i - l_{ij}$; $0 \le y_{ij} \le h_i - l_{ij}$). The bottom-left corner of the rectangle has coordinates $(0, 0)$ and the top-right corner has coordinates (w_i, h_i).

Example

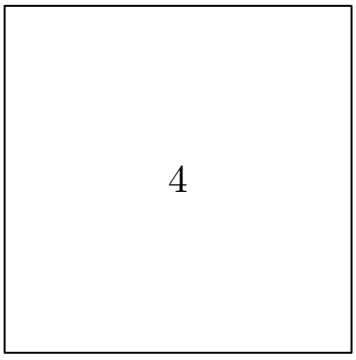
hard.in	hard.out
3 5 3 5 6 4 4	4 0 0 3 3 0 2 3 2 1 4 2 1 5 0 0 2 0 2 2 0 4 2 2 0 3 2 3 3 1 0 0 4



Example case 1



Example case 2



Example case 3