Problem J. Boundary

Source file name:	Boundary.c, Boundary.cpp, Boundary.java, Boundary.py
Input:	`Standard`
Output:	`Standard`

Bethany would like to tile her bathroom. The bathroom has width w centimeters and length l centimeters. If Bethany simply used the basic tiles of size 1×1 centimeters, she would use $w \cdot l$ of them.

However, she has something different in mind.

- On the interior of the floor she wants to use the 1×1 tiles. She needs exactly $(w-2) \cdot (l-2)$ of these.
- On the floor boundary she wants to use tiles of size $1 \times a$ for some positive integer a. The tiles can also be rotated by 90 degrees.

For which values of a can Bethany tile the bathroom floor as described? Note that a can also be 1.

Input

Each test contains multiple test cases. The first line contains an integer t $(1 \leq t \leq 100)$ – the number of test cases. The descriptions of the t test cases follow.

Each test case consist of a single line, which contains two integers w, l $\left(3 \leq w,\ l \leq 10^9\right)$ – the dimensions of the bathroom.

Output

For each test case, print an integer k $(0 \leq k)$ – the number of valid values of a for the given test case – followed by k integers a_1, a_2, …, a_k $(1 \leq a_i)$ – the valid values of a. The values a_1, a_2, …, a_k have to be sorted from smallest to largest.

It is guaranteed that under the problem constraints, the output contains at most $2 \cdot 10^5$ integers.

Example

Input	Output
3 3 5 12 12 314159265 358979323	3 1 2 3 3 1 2 11 2 1 2

Explanation

In the **first test case**, the bathroom is 3 centimeters wide and 5 centimeters long. There are three values of a such that Bethany can tile the floor as described in the statement, namely $a = 1$, $a = 2$ and $a = 3$. The three tilings are represented in the following pictures.

$a = 1$ $a = 2$ $a = 3$