Medals for the winning teams

Input file:	`dalia.in`
Output file:	`stdout`
Time limit:	15 seconds
Memory limit:	1024 megabytes

Dalia El-Hefny (The fundraising director in the ACPC) agreed with one of the sponsors to the ACPC 2013 to create medals for the winning teams. The sponsor bought a rod of gold of length L, and he want to make medals from it by cutting it into smaller pieces and deforms these pieces to form circular medals. She wants to make medals of the same size from the rod. Given **L**, the length of the rod, and given **R**, the radius of the required medals, what is the maximum number of medals she can form?

Input

In the first line, an integer **T** ($1 \leq \mathbf{T} \leq 100$), which is the number of test cases. Each test case will contains two space-separated integers, the first is **R**($1 \leq \mathbf{R} \leq 100$) which is the radius of the demanded medals and the second is **L** ($1 \leq \mathbf{L} \leq 100000$) which is the length of the rod of gold.

Output

For each test case print a single line containing "Case n:" (without the quotes) where n is the test case number (starting from 1) followed by a space then an integer **X** where **X** is maximum number of rings the sponsor company could make.

Examples

dalia.in	stdout
5 1 13 3 80 1 8 4 90 29 100	Case 1: 2 Case 2: 4 Case 3: 1 Case 4: 3 Case 5: 0

Note

- There will be no dimensions given as floating point numbers. They are all integers.
- Assume that Pi = 22/7
- Circumference = 2 * pi * r