BUET INTER-UNIVERSITY PROGRAMMING CONTEST

PROBLEM F – FINDING MAGIC TRIPLETS

Problem

Hermione Granger is very concerned about the magical disabilities of squibs (A Squib is someone who was born into a wizard family but hasn't got any magic powers). Since the fall of Voldemort, she has been working hard to invent a potion to cure these disabilities. After a lot of research work, she has invented that a certain amount of apple juice needs to be mixed with the burnt leaves of birch tree in a lot of cherry juice. Later, she invents that for a **k**-year old person, if **a** amount of apple juice, **b** amount of leaves of birch tree and **c** amount of cherry juice are mixed, it must satisfy the following equation:

$$(a + b^2) \bmod k = c^3 \bmod k, \text{ where } a <= b <= c \text{ and } 1 <= a, b, c <= n.$$

She names such a triplet ***(a, b, c)*** as a magic triplet for a **k**-year old person. She wants to know how many different magic triplets exist for known values of **n** and **k**. A triplet is different from another if any of the three values is not same in both triplets.

Input

First line of the input contains a single positive integer **T** ($\mathbf{1 \leq T \leq 400}$) denoting the number of test cases. Then in each of the following **T** lines, there will be two integers **n** and **k** ($\mathbf{1 \leq n, k \leq 10^5}$).

Output

For each of the cases, output a single line containing "Case x: y", where **x** is the case number and **y** is the number of magic triplets.

Sample Input	Output for Sample Input
1 10 7	Case 1: 27

Problemsetter: Anindya Das

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