Fruits

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Some people are lost on a deserted island. They are N people and one of them is the leader, and they have K pieces of fruit.

They want to use some of the fruit to plant trees. Unfortunately, there are some greedy people among them. They want to have the fruit for themselves. Each one of them wants to have the maximum possible number of fruit. The leader wants to make all people equal, that is if one person takes X pieces of fruit then everyone else will have X pieces as well.

You want to satisfy what both (the leader and the greedy people) want, That is to give each person the maximum amount of fruit such that everyone gets equal amounts of fruit. And the remaining fruit will be used to plant trees.

How many of the fruit will remain to plant the trees?

Input

The first line will contain $(1 \leq T \leq 10^5)$ the number of test cases. Each test case will contain two numbers N and K $(1 \leq N \leq 10^9)$, $(0 \leq K \leq 10^9)$.

Output

For each test case, print a single line containing only the number of fruits that can be used to plant trees.

Example

standard input	standard output
3 10 2 5 13 2 7	2 3 1