## Odd Numbers of Divisors

Given a positive odd integer K and two positive integers low and high, determine how many integers between low and high contain exactly K divisors.

## Input

The first line of the input contains a positive integer $C(0<C<100,000)$, the number of test cases to follow. Each case consists of a line containing three integers: K , low, and high ( $1<\mathrm{K}<10000$, $0<$ low $\leq$ high $<10^{\wedge} 10$ ). K will always be an odd integer.

## Output

Output for each case consists of one line: the number of integers between low and high, inclusive, that contain exactly K divisors.

## Example

Input:
3
3249
91100
555235
Output:
4
2
1

