

Problem K: K-th Nondivisor

- Time Limit: 6 sec

Problem Statement

Process Q queries. The i -th query is as follows:

- Given integers L_i , R_i , and K_i , find the K_i -th smallest positive integer x such that x does not divide any of the integers from L_i to R_i (inclusive).

Input

The input is given in the following format:

Q
 $L_1 \ R_1 \ K_1$
 \vdots
 $L_Q \ R_Q \ K_Q$

- $1 \leq Q \leq 100,000$
- $1 \leq L_i \leq R_i \leq 200,000$
- $1 \leq K_i \leq 200,000$
- All input values are integers.

Output

Output Q lines. On the i -th line, output the answer for the i -th query.

Sample Input	Sample Output
3 10 11 5 12345 23456 789 1 200000 200000	8 23629 400000