Problem F. Sum of divisors

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	256 megabytes

We call the integer N K-*expressible* if it can be expressed as a sum of K divisors of N (not necessarily different). Find the number of K-expressible integers between A and B inclusive.

Input

The first line contains integer T ($1 \le T \le 5 \cdot 10^4$) — the number of testcases.

Next T lines contain the description of testcases. Each of them contains three integers A, B, K ($1 \le A \le B \le 10^{18}$, $2 \le K \le 7$), separated by spaces.

Output

Print T lines, containing the answers for the corresponding testcases.

Examples

standard input	standard output
3 1 5 3 5 10 2 4 6 4	2 3 2

Note

In the first testcase, the numbers 3 and 4 are 3-expressible: $3 = 1 + 1 + 1$, $4 = 1 + 1 + 2$.

In the third testcase, the numbers 4 and 6 are 4-expressible: $4 = 1 + 1 + 1 + 1$, $6 = 1 + 1 + 1 + 3$.