

Problem E. Elliptic Curve Problem

Input file: **standard input**
Output file: **standard output**
Time limit: **3 seconds**
Memory limit: **1024 megabytes**

This problem might be well-known in some countries, but how do other countries learn about such problems if nobody poses them?

Let p be an odd prime. Compute the number of quadratic residues in $[l, r]$.

x is a quadratic residue of p iff $x^{(p-1)/2} \equiv 1 \pmod{p}$.

Input

In the first line, p, l, r ($3 \leq p \leq 10^{11}, 1 \leq l \leq r < p$). It's guaranteed that p is an odd prime.

Output

One integer — the answer.

Examples

standard input	standard output
11 3 8	3
998244353 11451400 919810000	454174074
96311898227 25437319919 55129361817	14846091352