Statement problem Fair Game

Alice and Bob are playing a game.

They have a pile of N rocks.

Alice makes the first move, then Bob does the second, and so on they alternate turns. In each turn, the player that has to move takes at least 1 rock and at most K rocks. If one takes an odd number of rocks, then they have to pay M dollars. When the pile is empty, the player who made the last move gets P dollars and the other one gets Q dollars. After the game ends, Alice will end up with an amount of dollars, let's call it X, and Bob will end up with another amount of dollars, let's call it Y.

Knowing that they play optimally, which means Alice wants to maximize the value $X - Y$ and Bob wants to minimize it, find out the value $X - Y$.

Input

The input will be read from *stdin* and it will contain one single line with the values of $N,\ K,\ M,\ P,\ Q$ in this order.

Output

The input will be written to *stdout* and it will contain one line with a single number representing the difference in dollars between Alice and Bob at the end of the game.

Restrictions

- $1 \leq N,\ K,\ M,\ P,\ Q \leq 5 \cdot 10^6$
- For 30 points: $N \leq 4000$
- For another 10 points: $N \leq 10000,\ K \leq 900$
- For another 20 points: $N \leq 10000$

Example

stdin	stdout
6 3 5 4 2	2