

Problem L

Luffy and The One Piece

Time Limit: 1 second
Memory Limit: 512 megabytes

Captain Luffy, accompanied by his esteemed crew, is embarking on a quest to discover the legendary treasure known as "One Piece". In his possession, Captain Luffy holds the distinguished map of the Grand Line. This cartographic representation illustrates a maritime region, dimensioned as $m \times n$, subdivided into individual square units starting with an index of 1. Captain Luffy is currently stationed on an island positioned precisely at coordinates (x, y) on the said map. He was conferred a cryptic hint: "In the remotest location shall you seek, and by the k^{th} attempt, the treasure shall you meet."



Guided by this counsel, Captain Luffy strategizes his expeditionary endeavors as follows:

- For the inaugural voyage, he will navigate to the most distant part of the sea relative to the island and commence his exploration therein.
- During the subsequent sortie, Captain Luffy intends to scout the location that is second in remoteness to the island yet untouched by previous explorations.
- On the tertiary expedition, his objective is to explore the third most distant square from the island that remains uncharted.
- This methodical progression continues until the k^{th} exploration, where, concealed beneath the maritime abyss, the illustrious One Piece treasure is believed to reside.

Nonetheless, Captain Luffy, in his astuteness, recognizes the myriad potential locales that might harbor the treasure. Should he maintain this sequential trajectory, there's a looming concern that rival pirates might preemptively locate the treasure. So, Captain Luffy earnestly asks for your expertise. However, his primary requirement is to know the distance from the island to the presumptive treasure locale. With this knowledge, Captain Luffy is confident in leveraging his unparalleled intuition to pinpoint the precise resting place of the One Piece treasure. It is pertinent to note, as advised by Captain Luffy, that within this maritime expanse, all distances are gauged using the Manhattan metric.

For clarity, the Manhattan distance between two designated coordinates (x_1, y_1) and (x_2, y_2) is articulated as $|x_1 - x_2| + |y_1 - y_2|$.

Input

A single line contains 5 integers m, n, x, y , and k .

$$(2 \leq m, n \leq 10^9; 1 \leq x \leq m; 1 \leq y \leq n; 1 \leq k \leq m \times n - 1)$$

Output

A single number indicates the manhattan distance from the island to the One Piece.

Sample Input	Sample Output
5 6 4 3 4	5
5 6 4 3 6	4