Problem 1197: Minimum Knight Moves

Problem Information

Difficulty: Medium
Acceptance Rate: 41.56%
Paid Only: Yes
Tags: Breadth-First Search

Problem Description

In an **infinite** chess board with coordinates from `-infinity` to `+infinity`, you have a **knight** at square `[0, 0]`.

A knight has 8 possible moves it can make, as illustrated below. Each move is two squares in a cardinal direction, then one square in an orthogonal direction.

Return _the minimum number of steps needed to move the knight to the square_ `[x, y]`. It is guaranteed the answer exists.

Example 1:

Input: x = 2, y = 1 **Output:** 1 **Explanation:**[0, 0] -> [2, 1]

Example 2:

Input: x = 5, y = 5 **Output:** 4 **Explanation:**[0, 0] -> [2, 1] -> [4, 2] -> [3, 4] -> [5, 5]

Constraints:

* `-300 <= x, y <= 300` * `0 <= |x| + |y| <= 300`

Code Snippets

C++:

```
class Solution {
public:
int minKnightMoves(int x, int y) {

}
};
```

Java:

```
class Solution {
public int minKnightMoves(int x, int y) {

}
}
```

Python3:

```
class Solution:
def minKnightMoves(self, x: int, y: int) -> int:
```