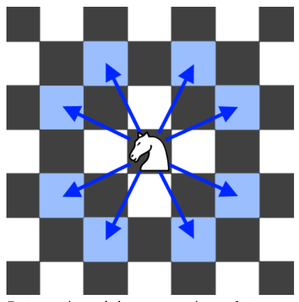
1197. Minimum Knight Moves

Medium 944 300 Add to List Share

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`

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Breadth-First Search

Hide Hint 1

You can simulate the movements since the limits are low.

Hide Hint 2

Is there a search algorithm applicable to this problem?

Hide Hint 3

Since we want the minimum number of moves, we can use Breadth First Search.

Java Autocomplete

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

    }
}
```