Problem 2849: Determine if a Cell Is Reachable at a Given Time

Problem Information

Difficulty: Medium
Acceptance Rate: 37.15%
Paid Only: No
Tags: Math

Problem Description

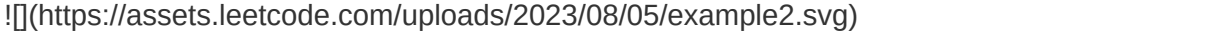
You are given four integers `sx`, `sy`, `fx`, `fy`, and a **non-negative** integer `t`.

In an infinite 2D grid, you start at the cell `(sx, sy)`. Each second, you **must** move to any of its adjacent cells.

Return `true` _if you can reach cell_`(fx, fy)` _after**exactly**_ `t` **_seconds_** , _or_ `false` _otherwise_.

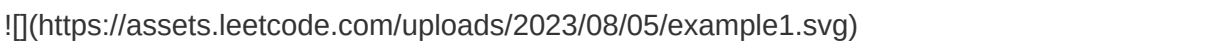
A cell's **adjacent cells** are the 8 cells around it that share at least one corner with it. You can visit the same cell several times.

Example 1:



Input: sx = 2, sy = 4, fx = 7, fy = 7, t = 6 **Output:** true **Explanation:** Starting at cell (2, 4), we can reach cell (7, 7) in exactly 6 seconds by going through the cells depicted in the picture above.

Example 2:



Input: sx = 3, sy = 1, fx = 7, fy = 3, t = 3 **Output:** false **Explanation:** Starting at cell (3, 1), it takes at least 4 seconds to reach cell (7, 3) by going through the cells depicted in the picture above. Hence, we cannot reach cell (7, 3) at the third second.

Constraints:

* `1 <= sx, sy, fx, fy <= 109` * `0 <= t <= 109`

Code Snippets

C++:

```
class Solution {
public:
bool isReachableAtTime(int sx, int sy, int fx, int fy, int t) {

}
};
```

Java:

```
class Solution {
public boolean isReachableAtTime(int sx, int sy, int fx, int fy, int t) {

}
}
```

Python3:

```
class Solution:
def isReachableAtTime(self, sx: int, sy: int, fx: int, fy: int, t: int) ->
bool:
```