Problem 780: Reaching Points

Problem Information

Difficulty: Hard
Acceptance Rate: 34.03%
Paid Only: No
Tags: Math

Problem Description

Given four integers `sx`, `sy`, `tx`, and `ty`, return `true` _if it is possible to convert the point_`(sx, sy)`_to the point_`(tx, ty)` _through some operations_ _, or_`false` _otherwise_.

The allowed operation on some point `(x, y)` is to convert it to either `(x, x + y)` or `(x + y, y)`.

Example 1:

Input: sx = 1, sy = 1, tx = 3, ty = 5 **Output:** true **Explanation:** One series of moves that transforms the starting point to the target is: (1, 1) -> (1, 2) (1, 2) -> (3, 2) (3, 2) -> (3, 5)

Example 2:

Input: sx = 1, sy = 1, tx = 2, ty = 2 **Output:** false

Example 3:

Input: sx = 1, sy = 1, tx = 1, ty = 1 **Output:** true

Constraints:

* `1 <= sx, sy, tx, ty <= 109`

Code Snippets

C++:

```
class Solution {
public:
bool reachingPoints(int sx, int sy, int tx, int ty) {

}
};
```

Java:

```
class Solution {
public boolean reachingPoints(int sx, int sy, int tx, int ty) {

}
}
```

Python3:

```
class Solution:
def reachingPoints(self, sx: int, sy: int, tx: int, ty: int) -> bool:
```