Possible Path ★

Points: 625 Rank: 4369

Adam is standing at point (a, b) in an infinite 2D grid. He wants to know if he can reach point (x, y) or not. The only operation he can do is to move to point $(a+b, b), (a, a+b), (a-b, b), \text{or} (a, b-a)$ from some point (a, b). It is given that he can move to any point on this 2D grid, i.e., the points having positive or negative X(or Y) co-ordinates.

Tell Adam whether he can reach (x, y) or not.

Input Format

The first line contains an integer, T, followed by T lines, each containing 4 space-separated integers i.e. a, b, x and y.

Constraints

- $1 \leq T \leq 1000$
- $1 \leq a, b, x, y \leq 10^{18}$

Output Format

For each test case, display `YES` or `NO` that indicates if Adam can reach (x, y) or not.

Sample Input

```
3
1 1 2 3
2 1 2 3
3 3 1 1
```

Sample Output

```
YES
YES
NO
```

Explanation

1. (1,1) -> (2,1) -> (2,3).

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Difficulty Easy
Max Score 20
Submitted By 13499

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```
#include <bits/stdc++.h>

using namespace std;

string ltrim(const string &);
string rtrim(const string &);
vector<string> split(const string &);

/*
 * Complete the 'solve' function below.
 *
 * The function is expected to return a STRING.
 * The function accepts following parameters:
 *  1. LONG_INTEGER a
 *  2. LONG_INTEGER b
 *  3. LONG_INTEGER x
 *  4. LONG_INTEGER y
 */

long gcd(long c, long d)
{
    assert(c >= d);
```

```
    while (d)
    {
        const long tmp {d};
        d = c % d;
        c = tmp;
    }
    return c;
}

std::string solve(long a, long b, long x, long y)
{
    static const long M {1000000000000000000l};
```

Line: 121 Col: 1

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