Melih's Chocolates

Problem

Submissions

Discussion   Coming Soon

Melih has run out of creativity and can only write questions about chocolate. Since Merve loves chocolates, Melih wants to send her **inzva** chocolates.

There are x of red and y of white chocolates. Melih wants to send these chocolates by packing them in a fancy way. Each pack contains either a red chocolates and b white chocolates or a white chocolates and b red chocolates. Any chocolate can belong to at most one pack.

For example, if $x = 11$, $y = 13$, $a = 5$, and $b = 3$, then Melih can make three packs:

In the first set there will be 5 red candies and 3 white candies; In the second set there will be 5 white candies and 3 red candies; In the third set will be 5 white candies and 3 red candies.

Help Melih to find the largest number of chocolate packs he can create.

Input Format

The first line contains an integer t. Then t test cases follow.

Each test case consists of four integers x, y, a, and b.

Output Format

For each test case, output one number — maximum number of packs Melih can make.

Constraints

$1 \leq t \leq 10^4$

$1 \leq x, y, a, b \leq 10^9$

Sample Input 1

```
3
10 12 2 5
11 13 3 5
9 7 1 1
```

Sample Output 1

```
3
3
7
```

Sample Input 2

```
9
6336 91 60 1
8485 1419 379 37
5060 2429 4 63
7695 6801 293 86
5127 7968 146 379
8623 2609 467 51
5506 6811 123 138
1812 1501 19 34
6037 5352 381 69
```

Sample Output 2

```
91
23
111
38
24
21
44
62
24
```

```cpp
#include <bits/stdc++.h>
#include <math.h>
using namespace std;


int main() {
    int x, y, a, b;
    int q;
    cin >> q;
    for(int i = 0; i < q; i++)
    {
        int x, y, a, b;
        cin >> x >> y >> a >> b;
        int cnt = 0;
        while(x >0 && y > 0){
            int tmp1, tmp2;
            tmp1 = max(x, y) - max(a, b);
            tmp2 = min(x, y) - min(a, b);
            x = tmp1;
            y = tmp2;
            if(x < 0 || y < 0)
                break;
            cnt++;
        }
        cout << cnt << endl;
    }
    return 0;
}
```

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✓ **Sample Test Case 0**

✓ Sample Test Case 1

Accepted

Input(stdin)

```
1  3
2  10 12 2 5
3  11 13 3 5
4  9 7 1 1
```

Output(stdin)

```
1  3
2  3
3  7
4
```

Expected Output

```
1  3
2  3
3  7
```