Problem D. D

Time limit 1000 ms
Mem limit 262144 kB

Polycarp plays a well-known computer game (we won't mention its name). In this game, he can craft tools of two types — shovels and swords. To craft a shovel, Polycarp spends two sticks and one diamond; to craft a sword, Polycarp spends two diamonds and one stick.

Each tool can be sold for exactly one emerald. How many emeralds can Polycarp earn, if he has a sticks and b diamonds?

Input

The first line contains one integer t ($1 \le t \le 1000$) — the number of test cases.

The only line of each test case contains two integers a and b ($0 \le a, b \le 10^9$) — the number of sticks and the number of diamonds, respectively.

Output

For each test case print one integer — the maximum number of emeralds Polycarp can earn.

Sample 1

Input	Output
4 4 4 1000000000 0 7 15 8 7	2 0 7 5

Note

In the first test case Polycarp can earn two emeralds as follows: craft one sword and one shovel.

In the second test case Polycarp does not have any diamonds, so he cannot craft anything.