Game with Matches

Two players are playing a game with matches.

There are two piles of matches with d_1 and d_2 matches.

The players are taking matches from the piles turns. A player is allowed to take one or two matches from one pile of his choice. The winner is the one who takes the last matches.

Task. Write an algorithm to determine the next move of the current player, i.e. how many matches and from which pile should be taken so that the player would win (if that is possible in the current game situation).

Input. The input data is the number of matches in each of the two piles.

Examples.

Input	Output	Comments
`3 6`	`1 2`	In order to win one match from the second pile should be taken.

Constraints. $1 \leq d_1, d_2 \leq 5\ 000$.