Problem B. Board Game With Cards

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

You got $H \cdot W$ cards, where $H \cdot W$ is even. Each card has a number 1 through $H \cdot W/2$ on the face, and each such number is on the face of exactly two cards. You considered what types of card games you could play with the cards, and decided to play the following board game.

You first align $H \cdot W$ cards face down on an $H \times W$ rectangular field. Your goal is to remove all the cards from the field by repeating turns. On each turn, you must flip exactly two cards. If the two flipped cards have the same number on the face, you remove the two cards from the field. If not, you flip the two cards again to make them face down. You have perfect memory, so you remember the positions and numbers of every card you flipped. So, on each turn, you will act as follows.

1. If you already know the positions of two cards with the same number, flip any such pair of cards and remove them from the field.
2. If not, flip a card you haven't flipped yet which has the highest precedence. We define the precedence of cards later.
3. If you have seen the number on the flipped card on another card already, flip this other card and remove the two cards from the field.
4. If not, flip another card you haven't flipped yet which has the highest precedence.
5. If the first and the second cards you flipped on this turn luckily have the same number, remove the two cards from the field.
6. If not, put the two flipped cards face down to prepare for the next turn.

Let us number the rows 1 through H from the top. The card at the topmost row among the remaining cards has the highest precedence. If there are multiple cards at the topmost row, if the row is initially an odd-numbered row, the leftmost card has the highest precedence. If the row is initially an even-numbered row, the rightmost card has the highest precedence.

After you played the game, you noticed you forgot to count how many turns you took to remove all the cards from the field. Fortunately, you remember the initial placement of the cards. So you decided to write a program to compute the turns you made to remove all the cards for a given initial placement.

Input

The first line contains two integers H ($1 \le H \le 100$) and W ($1 \le W \le 100$). You can assume that $H \times W$ is even.

Each of the following H lines has exactly W integers. The j-th integer of the i-th row represents the number on the face of the card at the i-th row from the top and the j-th column from the left. You can assume all the integers in the H lines are between 1 and $H \cdot W/2$, and each such integer appears exactly twice.

Output

Print a single integer which is the number of turns you take to remove all the cards.

Examples

standard input	*standard output*
2 6 1 1 5 4 4 5 3 2 6 2 6 3	9
4 3 1 1 3 2 2 3 4 4 5 6 6 5	6
1 10 5 4 3 2 1 1 2 3 4 5	7