



So Many Ways

Problem Code: **JCWC02**

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College starts at eight in the morning! But Yash Jeswani is awake way before he is supposed to be. It's a beautiful day for him until he realizes Yash Agarwal took his shoes and had been away while Jeswani was sleeping. Jeswani is furious with such irresponsible behaviour. Now, what to **do then**? So he decides to go to "the Bali"'s shop to buy new shoes. Now Bali shows him a N pairs of shoes. But these shoes aren't some normal shoes! These are "the Bali" shoes. The size of left shoe will be always not equal to the size of the right shoe! Being such close friends Bali agrees to gift him a pair of shoes if he answers his question. Bali asks what are the total number of ways to select one shoe from each of the N pairs such that the summation of all the selected shoe sizes is odd? Then do help Jeswani to get free shoes.

Input:

- First line will contain T , number of testcases. Then the testcases follow.
- First line of each testcase contains N number of pairs
- N lines follows two space separated integer L_i R_i representing shoe sizes

Output:

- For every testcase, print number of ways to select one shoe from each of the N pairs such that the summation of the selected shoe sizes is odd.

Constraints

- $1 \leq T \leq 100$
- $1 \leq N \leq 10^5$
- $1 \leq A_i \leq 10^9$

Sample Input:

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

Sample Output:

```
2
```

EXPLANATION:

The two ways are {1,4} and {2,3}.

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Time Limit: 1 secs

Source Limit: 50000 Bytes

Languages: C, CPP14, JAVA, PYTH, PYTH 3.6, PYPY, CS2, PAS fpc, PAS gpc, RUBY, PHP, GO, NODEJS, HASK, rust, SCALA, swift, D,

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