



USACO 2017 FEBRUARY CONTEST, BRONZE PROBLEM 1. WHY DID THE COW CROSS THE ROAD

[Return to Problem List](#)

Contest has ended.

[Log in to allow submissions in analysis mode](#)

English (en) ▼

While the age-old question of why chickens cross roads has been addressed in great depth by the scientific community, surprisingly little has been published in the research literature on the related subject of cow crossings. Farmer John, well-aware of the importance of this issue, is thrilled when he is contacted by a local university asking for his assistance in conducting a scientific study of why cows cross roads. He eagerly volunteers to help.

As part of the study, Farmer John has been asked to document the number of times each of his cows crosses the road. He carefully logs data about his cows' locations, making a series of N observations over the course of a single day. Each observation records the ID number of a cow (an integer in the range $1 \dots 10$, since Farmer John has 10 cows), as well as which side of the road the cow is on.

Based on the data recorded by Farmer John, please help him count the total number of confirmed crossings. A confirmed crossing occurs when a consecutive sightings of a cow place it on different sides of the road.

INPUT FORMAT (file `crossroad.in`):

The first line of input contains the number of observations, N , a positive integer at most 100. Each of the next N lines contains one observation, and consists of a cow ID number followed by its position indicated by either zero or one (zero for one side of the road, one for the other side).

OUTPUT FORMAT (file `crossroad.out`):

Please compute the total number of confirmed crossings.

SAMPLE INPUT:

```
8
3 1
3 0
6 0
2 1
4 1
3 0
4 0
3 1
```

SAMPLE OUTPUT:

```
3
```

In this example, cow 3 crosses twice -- she first appears on side 1, then later appears on side 0, and then later still appears back on side 1. Cow 4 definitely crosses once. Cows 2 and 6 do not appear to cross.

Problem credits: Brian Dean

Contest has ended. No further submissions allowed.