

Smallest difference

We have the weather forecast for the next N days. The data contains the expected minimum and maximum temperatures.

Create a program that gives us the day on which the difference between the expected minimum and maximum temperature is the smallest.

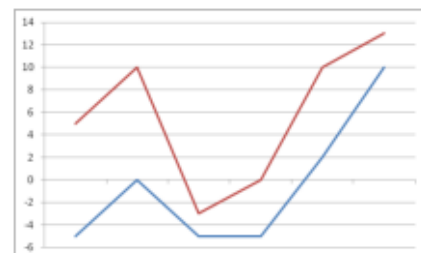


Input

The first line of the standard input contains the number of days ($1 \leq N \leq 100$). The next N lines contain the expected minimum and maximum temperatures ($-50 \leq \text{Min} \leq \text{Max} \leq 50$) for each day.

Output

The first line of the standard output should contain the index of the day on which the difference between the expected minimum and expected maximum is the smallest.



Example

Input

```
6
-5 5
0 10
-5 -3
-5 0
2 10
10 13
```

Output

```
3
```