

Ada and Cucumber

Ada the Ladybug works as farmer. Its season of cucumbers and she wants to harvest them. There lies many cucumbers all around her house. She wants to choose a direction and follow it until all cucumbers in that direction are collected.

Lets consider Ada's house as centerpiece of whole universe, lying on $[0,0]$. The cucumbers are defined as lines on plane. No cucumber goes through Ada's house (and no cucumber touches it).

How many cucumbers can Ada pick in one go if she chooses the best direction possible?

Input

The first line contains an integer T , the number of test-cases.

Each test-case begins with an integer $1 \leq N \leq 10^5$

Afterward N lines follow, with four integers $-10^6 \leq x_1, y_1, x_2, y_2 \leq 10^6$, the beginning and end of each cucumber. Each cucumber has positive length.

Sum of all N over all test-cases won't exceed 10^6

Even though cucumber will not go through house, they might touch, intersect or overlap other cucumbers!

Output

For each test-case print one integer - the maximal number of cucumbers which could be picked if Ada chooses a direction and picks every cucumber lying in it.

Example Input

```
5
4
2 1 -1 4
-2 1 1 3
-3 2 0 5
-2 -2 5 1
3
-2 2 -2 -2
2 2 2 -2
-3 -3 -6 -3
3
-2 1 -3 4
3 1 5 5
-2 -2 2 -2
6
-1 5 -6 5
-3 -3 5 -3
-2 -5 5 -5
-1 -6 5 -6
5 1 5 5
```

6 6 6 -11
3
1 3 4 3
4 2 4 -1
5 1 6 6

Example Output

3
2
1
4
2

Possibly harvested cucumbers

1 2 3
1 3
1
2 3 4 6
2 3