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Algorithms Lab

Exercise – *Boats*

Every year all the wizards of the world gather at the Algwarts School of Magic to celebrate the fact that their magic is still not replaced by science.

They can come with boats, among other ways. Organizers have reserved a ring for every particant, so he can tie his boat to the ring assigned uniquely to him. Every magician has sent the length of his boat to the organizers. The boat has to be tied so that the ring is somewhere on the length of the boat including endpoints of the boat. End of the boats can touch each other, but boats cannot overlap (see the picture). Because of this restriction it is possible that all boats cannot be tied at the same time.

Organizing committee of the Wizard Assembly asked you to write the program BOATS that finds the maximal number of the boats which can be tied at the same time to the assigned ring.

Input The first line of the input file will contain an integer giving the number of test cases that follow.

Each test case starts with a line containing number of wizards, $N, (1 \leq N \leq 10^5)$. In each of the following N lines there are exactly two space separated integers l_i and p_i, $1 \leq l_i, p_i \leq 10^6, 1 \leq i \leq N$, representing the *length of the boat* and the *position of the assigned ring* along the river bank starting from the school building. No two rings have the same position. While positions of the rings are always positive, left endpoints of the boats can be negative.

Output For each test case, on a single line output maximal number of boats.

Sample Input

```
1
7
5 9
2 17
6 10
3 11
2 16
4 13
5 6
```

Sample Output

```
5
```