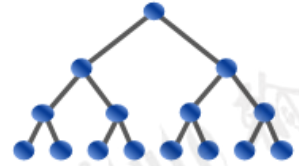


USA Computing Olympiad



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USACO 2024 DECEMBER CONTEST, GOLD PROBLEM 3. JOB COMPLETION

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English (en) ▼

Bessie the cow has N ($1 \leq N \leq 2 \cdot 10^5$) jobs for you to potentially complete. The i -th one, if you choose to complete it, must be started at or before time s_i and takes t_i time to complete ($0 \leq s_i \leq 10^{18}, 1 \leq t_i \leq 10^{18}$).

What is the maximum number of jobs you can complete? Time starts at 0, and once you start a job you must work on it until it is complete, without starting any other jobs in the meantime.

INPUT FORMAT (input arrives from the terminal / stdin):

The first line contains T , the number of independent test cases ($1 \leq T \leq 10$). Each test case is formatted as follows.

The first line contains N .

Each of the next N lines contains two integers s_i and t_i . Row $i + 1$ has the details for the i th job.

It is guaranteed that the sum of N over all test cases does not exceed $3 \cdot 10^5$.

OUTPUT FORMAT (print output to the terminal / stdout):

For each test case, the maximum number of jobs you can complete, on a new line.

SAMPLE INPUT:

```

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

```

SAMPLE OUTPUT:

```

1
2
2

```

For the first test case, you can only complete one of the jobs. After completing one job, it will then be time 2 or later, so it is too late to start the other job, which must be started at time 1 or earlier.

For the second test case, you can start the second job at time 0 and finish at time 2, then start the first job at time 2 and finish at time 5.

SCORING:

- Inputs 2: Within the same test case, all t_i are equal.
- Inputs 3-4: $N \leq 2000, s_i, t_i \leq 2000$
- Inputs 5-8: $N \leq 2000$
- Inputs 9-16: No additional constraints.

Problem credits: Benjamin Qi

Contest has ended. No further submissions allowed.

