Problem H
Hall of Hyper-chairs™

Time limit: 3 seconds
Memory limit: 512 megabytes

Problem Description

Anna has a gathering hall in the outrealm. Time works differently in the outrealm. However, one day in the outrealm is equal to one day on Earth.

Each day in the outrealm is separated into 10^{12} time segments, indexed from 1. Each group may register to use the gathering hall for 1 time segment. No two groups may share the same time segment.

In order to sit in the outrealm gathering hall, you need hyper-chairs. Each person needs 1 hyper-chair, otherwise they don't get to sit at all. Hyper-chairs are affected by the phenomenon called "chair-boom". A chair-boom always happens at the beginning of a day. When a chair-boom happens, it destroys all hyper-chairs in the outrealm. However, after the chair-boom, a portal opens up in the outrealm at the end of some time segment on that day and connects to the chair realm. Anna can transfer infinitely many hyper-chairs for free from the chair realm to the outrealm.

While chair-booms seem unpredictable in the outrealm, they can easily be predicted on the Earth. In order to prevent people from having no hyper-chairs to sit in and leaving bad reviews, Anna has to send hyper-chairs into the outrealm from Earth. She does this by having a portal that allows her to send hyper-chairs from Earth right after the chair-boom. Hyper-chairs are expensive to purchase on the Earth, and Anna only wants to send as few chairs possible without leaving anyone without a seat each time a chair-boom happens.

There will only be a new group registration or one chair-boom each day. Anna usually handles all this all on her own, but as the business grows, she asks you to help her handle the requests and chair-boom forecasts.

Input Format

The input starts with an integer n, meaning there are n days. For each day, there is only one task. A task is either a new group registering their time slot or a chair-boom.

Then n lines follow, each representing a task. Each task starts with an integer q.

- If $q = 1$, this means that this task is a new group registration. Then two integers follow, t and c, meaning that a group of c people want to reserve the time segment t.
- If $q = 2$, this means that a chair-boom will occur. There one integer t follows, meaning that after the chair-boom the portal will open at the end of time segment t on that day.

Output Format

For each task with $q = 2$, output the minimum number of hyper-chairs that Anna has to send into the outrealm to allow everyone to have a seat on that day.

Technical Specification

- $1 \leq n \leq 10^6$
- $q \in \{1, 2\}$
- $1 \leq t \leq 10^{12}$
- $1 \leq c \leq 10^9$

Sample Input 1

```
10
1 1 5
1 3 6
1 10 9
2 4
2 2
2 10
1 5 12
2 10
1 6 7
2 6
```

Sample Output 1

```
6
5
9
12
12
```

Hint

After the first 3 days, we know of the following reservations and how many people will be in the hall at each time segment:

time:	1	2	3	4	5	6	7	8	9	10	11	...
count:	5	0	6	0	0	0	0	0	0	9	0	...

On day 4, a chair-boom happens. For time segments 1 to 4, the maximum people in the hall at once is 6, so Anna need to send in 6 hyper-chairs. For the group at time segment 10, Anna may transfer hyper-chairs from the portal connected to the chair realm.

On day 5, another chair-boom happens. We only need to send 5 hyper-chairs for the group at $t = 1$. Since the chair-boom happens at the beginning of the day and removes all hyper-chairs, we cannot rely on the previously sent hyper-chairs.

On day 6, we now need to send 9 hyper-chairs after the chair-boom, to satisfy the group at $t = 10$. The portal opens at the end of time segment 10, so some people don't have hyper-chairs if we send less than 9.

After day 7, the people that are in the hall at each time segment is updated:

time:	1	2	3	4	5	6	7	8	9	10	11	...
count:	5	0	6	0	12	0	0	0	0	9	0	...

Note that since time works differently, and outrealm gates can lead to different time segments, we can have a later group reserve an earlier time segment.

On day 8, we need to send 12 hyper-chairs after the chair-boom for time segment 5.

After day 9, the people that are in the hall at each time segment is updated:

time:	1	2	3	4	5	6	7	8	9	10	11	...
count:	5	0	6	0	12	7	0	0	0	9	0	...

On day 10, a chair-boom happens. We need to send 12 hyper-chairs for time segment 5.