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Coin Flip ✓

Problem code: CONFLIP

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Little Elephant was fond of inventing new games. After a lot of research, Little Elephant came to know that most of the animals in the forest were showing less interest to play the multi-player games. Little Elephant had started to invent single player games, and succeeded in inventing the new single player game named **COIN FLIP**.

In this game the player will use **N** coins numbered from **1** to **N**, and all the coins will be facing in "Same direction" (Either **Head** or **Tail**),which will be decided by the player before starting of the game.

The player needs to play **N** rounds. In the **k**-th round the player will flip the face of the all coins whose number is less than or equal to **k**. That is, the face of coin **i** will be reversed, from **Head** to **Tail**, or, from **Tail** to **Head**, for **i ≤ k.**

Elephant needs to guess the total number of coins showing a particular face after playing **N** rounds. Elephant really becomes quite fond of this game **COIN FLIP**, so Elephant plays **G** times. Please help the Elephant to find out the answer.

Input

The first line of input contains an integer **T**, denoting the number of test cases.
Then **T** test cases follow.
The first line of each test contains an integer **G**, denoting the number of games played by Elephant. Each of the following **G** lines denotes a single game, and contains 3 space separeted integers **I**, **N**, **Q**, where **I** denotes the initial state of the coins, **N** denotes the number of coins and rounds, and **Q**, which is either 1, or 2 as explained below.
Here **I=1** means all coins are showing **Head** in the start of the game, and **I=2** means all coins are showing **Tail** in the start of the game. **Q=1** means Elephant needs to guess the total number of coins showing **Head** in the end of the game, and **Q=2** means Elephant needs to guess the total number of coins showing **Tail** in the end of the game.

Output

For each game, output one integer denoting the total number of coins showing the particular face in the end of the game.

Constraints

1 ≤ T ≤ 10

1 ≤ G ≤ 20000

1 ≤ N ≤ 10^9

1 ≤ I ≤ 2

1 ≤ Q ≤ 2

Example

Input:
```
1
2
1 5 1
1 5 2
```

Output:
```
2
3
```

Explanation:

In the 1st game in Example:
I=1, so initial arrangement of coins are H H H H H,
and now Elephant will play 5 rounds and coin faces will be changed as follows

After the 1st Round: **T** H H H H

After the 2nd Round: **H T** H H H

After the 3rd Round: **T H T** H H

After the 4th Round: **H T H T** H

After the 5th Round: **T H T H T**
Finally **Q=1**, so we need to find the total number of coins showing **Head**, which is **2**.
In the 2nd game in Example:
This is similar to the 1st game, except Elephant needs to find the total number of coins showing **Tail**.
So the Answer is **3**. (Please see the final state of the coins in the 1st game)

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Tester:	laycurse
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