G. Johann Carl Friedrich Gauss

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

In a small German town called Brunswick, cobbled streets echoed with the sound of horse hooves and distant church bells. Inside a dimly lit classroom, old wooden benches creaked as young boys, with ink-stained fingers and calloused hands, fidgeted impatiently. It was a typical afternoon at the cathedral school -except, it was about to become a moment of mathematical history.

At the front of the room stood **Herr Büttner**, the schoolmaster. He was tired, worn out by the day, and in no mood to deal with restless energy.

"Boys!"he barked. "You will now add the numbers from 1 to 100. Do it silently. Do it completely. And do not disturb me until you are finished!"

$$\sum_{i=1}^{n} i = 1 + 2 + 3 + 4 + ... + (n-1) + n$$

With that, he slumped into his chair and closed his eyes.

The classroom buzzed with low murmurs and the scratching of chalk on slate. Most boys began the slow process:

$$\sum_{i=1}^{100} i = 1 + 2 + 3 + 4 + ... + 98 + 99 + 100$$

In this class, there was a boy named **Gauss** who came up with the solution:

$$\sum_{i=1}^{100} i = 5050$$

The teacher was very astonished by the solution and wondered how Gauss came up with it. He then gave Gauss different numbers, which he immediately calculated.

In Gauss's time, there were no computation machines. Yet, he was able to calculate the sum of numbers quickly using his clever method.

Your task is to write a program that computes the summation of numbers from 1 to n.

Input

Each input contains multiple test cases, $t(1 \leq t \leq 10^4)$. Each test case contains a single integer $n(1 \leq n \leq 10^9)$.

Output

For each test case, print the summation from 1 to n on a new line.

$$sum = \sum_{i=1}^{n} i$$

Example

standard input	standard output
5 10 50 73 97 100	55 1275 2701 4753 5050

Note

- $\sum_{i=1}^{10} i = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 = 55$
- $\sum_{i=1}^{100} i = 1 + 2 + 3 + ... + 98 + 99 + 100 = 5050$