

1676 - Let us help George

Description

George and all children are fascinated with shapes. His father knowing this takes a simple problem that combines elements of calculation with some geometry. George is very adept working with geometry, but it is only a 6-year-old knows nothing of calculation. The problem is described below:

N is defined level of a diamond shape formed entirely as shown:

N = 1, diamonds = 1

N = 2, diamonds = 5

The N-Shape is formed by $N \times N$ single diamonds. Knowing this, calculate the amount of diamonds present in an N-Shape. Could you help the little George?

Input specification

The input consists of several cases. Each case contains an integer N ($0 < N \leq 10^4$) indicating the level of the figure. The input ends when entering the value 0, this line should not be processed.

Output specification

The output will consist of several lines, two lines for each case: the first with the number of the current case, and the second with the total number of diamonds for an N-Shape (N is the given number of the current case). See the output example.

Sample input

```
1
2
0
```

Sample output

Case 1:

```
n = 1, diamonds = 1
```

Case 2:

n = 2, diamonds = 5

Hint(s)

Source	Michael Horta Fleitas
Added by	ymondelo20
Addition date	2012-02-18
Time limit (ms)	20000
Test limit (ms)	1500
Memory limit (kb)	150000
Output limit (mb)	64
Size limit (bytes)	30000
Enabled languages	C C# C++ Java Pascal Perl PHP Python Ruby Text