Problem A

A New Function

Input File: Standard Input
Output: Standard Output

We all know that any integer number **N** is divisible by **1** and **N**. That is why these two numbers are not the actual divisors of any numbers. The function **SOD(n)** (Sum of divisors) is defined as the summation of all the actual divisors of an integer number **n**. For example **SOD(24)=2+3+4+6+8+12=35**. The function **CSOD(n)** (cumulative **SOD**) of an integer **n**, is defined as below:

$$CSOD(n) = \sum_{i=1}^{i=n} SOD(i)$$

Given the value of **n**, your job is to find the value of **CSOD(n)**.

Input

The input file contains at most **50** lines of input. Each line contains an integer **n (0≤n≤2000000000)**. Input is terminated by a line where the value of **n=0**. This line should not be processed.

Output

For each line of input produce one line of output. This line should contain the serial of output followed by the value of **CSOD(n)**. Look at the output for sample input for details. You can safely assume that any output number fits in a **64**-bit signed integer.

Sample Input	Output for Sample Input
2 100 200000000	Case 1: 0 Case 2: 3150 Case 3: 12898681201837053

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