Problem B. Sum of Divisors

Time limit 3000 ms
Mem limit 1048576 kB

Problem Statement

For a positive integer X, let $f(X)$ be the number of positive divisors of X.

Given a positive integer N, find $\sum_{K=1}^{N} K \times f(K)$.

Constraints

- $1 \leq N \leq 10^7$

Input

Input is given from Standard Input in the following format:

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N
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Output

Print the value $\sum_{K=1}^{N} K \times f(K)$.

Sample 1

Input	Output
4	23

We have $f(1) = 1$, $f(2) = 2$, $f(3) = 2$, and $f(4) = 3$, so the answer is $1 \times 1 + 2 \times 2 + 3 \times 2 + 4 \times 3 = 23$.

Sample 2

Input	Output
100	26879

Sample 3

Input	Output
10000000	838627288460105

Watch out for overflows.