Sum of squares   P36668_en

Write a program that reads a natural number n, and prints the result of the following sum:

$$1^2 + 2^2 + \cdots + (n-1)^2 + n^2.$$

Input

Input consists of a natural number n.

Output

Print the sum of the first n squares: $\sum_{i=1}^{n} i^2$.

Observation

The summation has a closed formula, so a loop would not be necessary to solve this exercise.

Sample input 1
3

Sample output 1
14

Sample input 2
4

Sample output 2
30

Problem information

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