New Lesson

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

Today's lesson is about the series $\sum_{i=1}^{n} i^2$ and also there is a law to get the summation:

$$\sum_{i=1}^{n} i^2 = 1^2 + 2^2 + 3^2 + 4^2 + \cdots + n^2 = \frac{n(n+1)(2n+1)}{6}$$

.

Now *Mazen* wanted you to evaluate the following expression:

$$\frac{2(\sum_{i=1}^{n} i^2)(\sum_{i=1}^{n} i)^2}{(\sum_{i=1}^{n} i^2)(\sum_{i=1}^{n} i) + (\sum_{i=1}^{n} i^2)(\sum_{i=1}^{n} i)}$$

Input

Only one line contains n – $(1 \leq n \leq 10^9)$

Output

Output the answer.

Example

standard input	standard output
6	21