

Remainder of the Sum of Remainders

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 512 megabytes

Given an integer n . You need to compute the sum $i \bmod j$ for all pairs (i, j) such that $1 \leq i, j \leq n$.

In other words, you need to compute:

$$S = \sum_{i=1}^n \sum_{j=1}^n (i \bmod j)$$

.

The operation $a \bmod b$ means the remainder of the division of a by b .

Since the sum can be large, compute the answer modulo 998 244 353.

Input

The first line of input contains the number n ($1 \leq n \leq 10^{12}$).

Output

Output a single number — the answer to the problem modulo 998 244 353.

Example

standard input	standard output
5	26

Note

Consider the example.

Let's build a table of remainders $i \bmod j$ for $i, j = 1 \dots 5$:

$i \backslash j$	1	2	3	4	5
1	0	1	1	1	1
2	0	0	2	2	2
3	0	1	0	3	3
4	0	0	1	0	4
5	0	1	2	1	0

Summing the numbers in the table gives us 26.