

B. Easy Number Challenge

time limit per test

2 seconds

memory limit per test

256 megabytes

input

standard input

output

standard output

Let's denote $d(n)$ as the number of divisors of a positive integer n . You are given three integers a , b and c . Your task is to calculate the following sum:

$$\sum_{i=1}^a \sum_{j=1}^b \sum_{k=1}^c d(i \cdot j \cdot k).$$

Find the sum modulo 1073741824 (2^{30}).

Input

The first line contains three space-separated integers a , b and c ($1 \leq a, b, c \leq 100$).

Output

Print a single integer — the required sum modulo 1073741824 (2^{30}).

Examples

input

Copy

2 2 2

output

20

input

Copy

5 6 7

output

1520

Note

For the first example.

- $d(1 \cdot 1 \cdot 1) = d(1) = 1$;
- $d(1 \cdot 1 \cdot 2) = d(2) = 2$;
- $d(1 \cdot 2 \cdot 1) = d(2) = 2$;
- $d(1 \cdot 2 \cdot 2) = d(4) = 3$;
- $d(2 \cdot 1 \cdot 1) = d(2) = 2$;
- $d(2 \cdot 1 \cdot 2) = d(4) = 3$;
- $d(2 \cdot 2 \cdot 1) = d(4) = 3$;
- $d(2 \cdot 2 \cdot 2) = d(8) = 4$.

So the result is $1 + 2 + 2 + 3 + 2 + 3 + 3 + 4 = 20$.