Problem D. We need some math...

Time limit 3000 ms
Memory limit 256MB

Problem Description

How many tuples (a, b, c) exist such that $a \leq X, b \leq Y, c \leq Z$, and $\frac{ab}{c}$ is an irreducible fraction? Furthermore, what is the sum of all these irreducible fractions?

12/05 UPD: a, b, c have to be positive integers.

Here, an irreducible fraction $\frac{a}{b}$ is defined as a fraction where $\gcd(a, b) = 1$.

Input format

There only one line input, containing three integers $X, Y, Z (1 \leq X, Y, Z \leq 3 \times 10^5)$

Output format

Print two integers — the number of tuples and the sum of these irreducible fractions, taken modulo 998244353 (the answer can always be represented as an irreducible fraction $\frac{a}{b}$, where $b \bmod 998244353 \neq 0$; you have to print $a \cdot b^{-1} \mod 998244353$).

Subtask score

Subtask	Score	Additional Constraints
1	59	$X, Y, Z \leq 100$.
2	41	No constraints

Sample

Sample Input 1

```
11 22 33
```

Sample Output 1

```
3739 787081510
```

Sample Input 2

```
2 2 2
```

Sample Output 2

```
5 499122186
```

Sample Input 2

```
998 244 353
```

Sample Output 2

37040959 418691757

Notes

For sample input 2, there are 5 tuples $(1,1,1),(1,1,2),(1,2,1),(2,1,1),(2,2,1)$. The sum of the fractions is $\frac{19}{2}$ so you should output "5 499122186" while $499122186 = 19 \times 2^{-1} \mod 998344353$.