

Crash's number table

In today's math lesson, Little Crash has just learnt Least Common Multiple (LCM). For two positive integers a and b , $\text{LCM}(a, b)$ means the minimum positive integer which can be divisible by a and b .

After coming home, Crash is still thinking about what he learnt in the math lesson. Then he draw a table filled numbers in order to research LCM. The table has N rows and M columns. The number in the i th row and j th column is $\text{LCM}(i, j)$.

A table of 4×5 is just like this:

1	2	3	4	5
2	2	6	4	10
3	6	3	12	15
4	4	12	4	20

Now Little Crash wants to know the sum of all the numbers in the table. You just need to output the sum modulo 20101009.

Input

Only two positive integers stand for N and M . ($N, M \leq 10^7$)

Output

A positive integer which means the sum modulo 20101009.

Example

Input:

4 5

Output:

122