

## B. "A Timing Issue"

### Statement

Ever since her childhood, Marcelle has been traveling from planet to planet in order to document every single form of life of the universe.

Although she started her mission while accompanied by her parents, after a while, they decided to settle down once and for all, on Earth.

As Marcelle remained very close - or at least, emotionally - to her parents, she promised that she would call them as often as possible, and that she would tell them ahead of time when she'd be calling them.

However, every once in a while she makes calculation mistakes and ends up calling her parents at inappropriate times, thus creating some tensions within the family.

This is why Marcelle is asking for your help : she needs a program that would convert a time from an alien system to the Earth time system.

Despite cultural differences, every system works with hours and minutes, just like on Earth.

For every alien system, you are given the **integer number  $M$  of local minutes in an Earth minute** (for instance, if  $M = 2$ , then 42 local minutes represent 21 minutes on Earth).

Another difference is that one hour does not always equal to 60 minutes on other planets, but rather to an **integer number of (local) minutes  $H$**  which is also provided to you.

To make things simpler, we will consider that **clocks are synchronized at the beginning of the local current day, that is to say, it was midnight both on Earth and on the local planet at the beginning of the day**.

Lastly, the number of Earth minutes shall be **rounded down**.



But what *is* time anyway ?

### Input

On three lines :

- $hh:mm$  the **time to be converted** from a local format to the terrestrial format ( $1 \leq hh \leq 100$  and  $1 \leq mm \leq 10^5$ ) ;
- $M$  the **number of local minutes per Earth minute** ( $1 \leq M \leq 10^4$ ) ;
- $H$  the **number of local minutes per local hour** ( $1 \leq H \leq 10^4$ ).

## Output

Print the terrestrial time that corresponds to the local time given as an input, in the format *hh:mm* (without leading zeros). *Note : A terrestrial time is always comprised between 00:00 and 23:59*

## Examples

### Example 1

Input	Output
10:80 2 90	8:10

### Example 2

Input	Output
20:00 2 300	2:0

Here, the local time would exceed 23:59 as a terrestrial time, we thus go around the clock and the output time belongs to a different day, at 2 am.