# Problem 1 – Exam Schedule

You will be given **exam starting time** in the standard 12-hour clock (**hours**, **minutes** and **part of the day**) and **exam duration** (**hours** and **minutes**). Your job is to write a program that calculates **at what time the exam ends**.

\* Note that the **standard 12-hours clock** uses the following arrangements of the hours of the day: 12AM (midnight), 1AM, 2AM, 3AM, 4AM, 5AM, 6AM, 7AM, 8AM, 9AM, 10AM, 11AM, 12PM (noon), 1PM, 2PM, 3PM, 4PM, 5PM, 6PM, 7PM, 8PM, 9PM, 10PM, 11PM, 12AM, 1AM, … (learn more at <http://en.wikipedia.org/wiki/12-hour_clock>).

## Input

The input data should be read from the console. The input data consists of exactly 5 lines:

* The first three lines are holding the exam start time: **hour**, **minutes** and **part of the day (AM or PM)**.
* The last two lines are holding two integer numbers: the exam **duration hours** and **minutes**.

The input data will always be valid and in the format described. There is no need to check it explicitly.

## Output

You have to print the time the exam ends in format **HH:MM:PartOfDay**.

## Constraints

* The **starting hour** will be an integer number in the range [1…12] inclusive.
* The **starting minutes** will be an integer number in the range [0…59] inclusive.
* The **part of the day** will consist of exactly two capital letters: **AM** or **PM**.
* The **duration hours** will be an integer number between [0…23] inclusive.
* The **duration minutes** will be an integer number between [0…59] inclusive.
* Allowed work time for your program: 0.1 seconds.
* Allowed memory: 16 MB.

## Examples

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 9  30  AM  6  00 | 03:30:PM | 2  0  PM  2  30 | 04:30:PM |  | 11  30  AM  2  0 | 01:30:PM |  | 11  59  PM  0  3 | 12:02:AM |