

CCC '16 J4 - Arrival Time

Time Limit: 2.0s **Memory Limit:** 64M

Canadian Computing Competition: 2016 Stage 1, Junior #4

Fiona commutes to work each day. If there is no rush-hour traffic, her commute time is 2 hours. However, there is often rush-hour traffic. Specifically, rush-hour traffic occurs from `07:00` (7am) until `10:00` (10am) in the morning and `15:00` (3pm) until `19:00` (7pm) in the afternoon. During rush-hour traffic, her speed is reduced by half.

She leaves either on the hour (at `XX:00`), 20 minutes past the hour (at `XX:20`), or 40 minutes past the hour (at `XX:40`).

Given Fiona's departure time, at what time does she arrive at work?

Input Specification

The input will be one line, which contains an expression of the form `HH:MM`, in which `HH` is one of the 24 starting hours (`00`, `01`, ..., `23`) and `MM` is one of the three possible departure minute times (`00`, `20`, `40`).

Output Specification

Output the time of Fiona's arrival, in the form `HH:MM`.

Sample Input 1

```
05:00
```

Output for Sample Input 1

```
07:00
```

Explanation for Output for Sample Input 1

Fiona does not encounter any rush-hour traffic, and leaving at 5am, she arrives at exactly 7am.

Sample Input 2

07:00

Output for Sample Input 2

10:30

Explanation for Output for Sample Input 2

Fiona drives for 3 hours in rush-hour traffic, but only travels as far as she normally would after driving for 1.5 hours. During the final 30 minutes (0.5 hours) she is driving in non-rush-hour traffic.

Sample Input 3

23:20

Output for Sample Input 3

01:20

Explanation for Output for Sample Input 3

Fiona leaves at 11:20pm, and with non-rush-hour traffic, it takes two hours to travel, so she arrives at 1:20am the next day.