Problem M. div4-3

Time limit 1000 ms
Mem limit 262144 kB

Given the time in 24-hour format, output the equivalent time in 12-hour format.

- 24-hour format divides the day into 24 hours from 00 to 23, each of which has 60 minutes from 00 to 59.
- 12-hour format divides the day into two halves: the first half is AM, and the second half is PM. In each half, the hours are numbered in the order $12, 01, 02, 03, \ldots, 11$. Each hour has 60 minutes numbered from 00 to 59.

Input

The first line contains a single integer t ($1 \leq t \leq 1440$) — the number of test cases.

The only line of each test case contains a string s of length 5 with format `hh:mm` representing a valid time in the 24-hour format. `hh` represents the hour from 00 to 23, and `mm` represents the minute from 00 to 59.

The input will always be a valid time in 24-hour format.

Output

For each test case, output two strings separated by a space ("`hh:mm AM`" or "`hh:mm PM`"), which are the 12-hour equivalent to the time provided in the test case (without quotes).

You should output the time exactly as indicated; in particular, you should not remove leading zeroes.

Examples

Input	Output
11 09:41 18:06 12:14 00:59 00:00 14:34 01:01 19:07 11:59 12:00 21:37	09:41 AM 06:06 PM 12:14 PM 12:59 AM 12:00 AM 02:34 PM 01:01 AM 07:07 PM 11:59 AM 12:00 PM 09:37 PM