The Chinese clock

Cost: 16 | Solved: 38

Memory limit: 64 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

Once the programmer X was in China and noticed that Russian clocks “Zarya” are 10 times cheaper there than in Russia. X chose to do some shenanigans and bought a huge amount of clocks to bring it to his own country and sell them at half price (which actually means 5x times more expensive than he bought). But as soon as he came back home, he realized that many clocks go discordantly, moreover, they stop from a simple push (or start going if they were stopped before).

Obviously, the clocks were fake, just very accurate copies. To sell them really quickly, X wants to set them all to the same time (so it won’t matter if the time’s correct or not – he can say this is “the time of the manufacturer”) and just shake his bag to make them tick.

To set the time, he has to spin a winding crown that will make clock’s hands move: the hour hand moves 60 times slower than the minute hand and the minute hand is 60 times slower than the second hand. One full spin of a crown makes a full spin of the second hand; and although the spin takes just a second, it will take 6 minutes to change the time to 6 hours. It is allowed to spin a crown only clockwise to save fragile mechanism of a clock.

Help the programmer X minimize the effort put in preparing the clocks to be sold, choosing the optimal time to set all clocks to.

Input:

The first line contains a natural n ($1 \le n \le 50000$) – the quantity of clocks.

The next n lines contain the time of each clock in a format “***h:mm:ss***”, where h ($1 \le h \le 12$) means hours, ***mm*** and ***ss*** ($00 \le mm, ss \le 59$) – minutes and seconds.

Output:

The time all clocks need to be set to in the format presented above.

Example:

Input	Output
3 11:30:00 12:10:01 6:10:18	12:10:01