The 28th Annual ACM International Collegiate Programming Contest ASIA Regional - Seoul

Problem B

Clock

Input: clock.in

There is an analog clock with two hands: an hour hand and a minute hand. The two hands form an angle. The angle is measured as the smallest angle between the two hands. The angle between the two hands has a measure that is greater than or equal to 0 and less than or equal to 180 degrees.

Given a sequence of five distinct times written in the format $hh:mm$, where hh are two digits representing full hours $(00 \le hh \le 23)$ and mm are two digits representing minutes $(00 \le mm \le 59)$, you are to write a program that finds the median, that is, the third element of the sorted sequence of times in a nondecreasing order of their associated angles. Ties are broken in such a way that an earlier time precedes a later time.

For example, suppose you are given a sequence (06:05, 07:10, 03:00, 21:00, 12:55) of times. Because the sorted sequence is (12:55, 03:00, 21:00, 06:05, 07:10), you are to report 21:00.

Input

The input consists of *T* test cases. The number of test cases (*T*) is given on the first line of the input file. Each test case is given on a single line, which contains a sequence of five distinct times, where times are given in the format $hh:mm$ and are separated by a single space.

Output

Print exactly one line for each test case. The line is to contain the median in the format $hh:mm$ of the times given. The following shows sample input and output for three test cases.

Sample Input (clock.in)	Output for the Sample Input
3 00:00 01:00 02:00 03:00 04:00 06:05 07:10 03:00 21:00 12:55 11:05 12:05 13:05 14:05 15:05	02:00 21:00 14:05