

# The 28<sup>th</sup> 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 ( $00 \leq hh \leq 23$ ) and *mm* are two digits representing minutes ( $00 \leq mm \leq 59$ ), 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	02:00
00:00 01:00 02:00 03:00 04:00	21:00
06:05 07:10 03:00 21:00 12:55	14:05
11:05 12:05 13:05 14:05 15:05	