The 31st Annual

ACM International Collegiate Programming Contest ASIA Regional - Seoul

Problem A
Digital Clock

Digital clocks usually show the time in the form `hh:mm:ss`, where `hh` is a number between 00 and 23, and both `mm` and `ss` are numbers between 00 and 59. Removing the colons from `hh:mm:ss` will result in an integer `hhmmss`, which is called a *clock integer*. For example, the clock integer of `17:05:13` is 170513 and the clock integer of `00:07:37` is 737.

You are given a time interval and you are to determine the number of clock integers in it that are multiples of 3. A time interval will be given by specifying its start and end time. For example, the time interval [`00:59:58, 01:01:24`] has a total of 1+1+60+25=87 clock integers, namely, 5958, 5959, 10000 through 10059, and 10100 through 10124. How many of them are multiples of 3?

Note that a time interval that includes midnight may have a start time greater than its end time, as in [`22:47:03, 01:03:24`]. You may assume that a time interval is at least one second long and shorter than 24 hours.

Write a program that can determine the number of multiples of 3 in a time interval.

Input
Your program is to read from standard input. The input consists of T test cases. The number of test cases T is given in the first line of the input. Each test case consists of a single line that contains the start time and end time of a time interval, which are separated by a single space.

Output
Your program is to write to standard output. Each test case outputs exactly one line. Print the number of multiples of 3 among the clock integers in the time interval.

The following shows a sample input with three test cases and its output.

Sample Input	Output for the Sample Input
3 00:59:58 01:01:24 22:47:03 01:03:24 00:00:09 00:03:37	29 2727 70