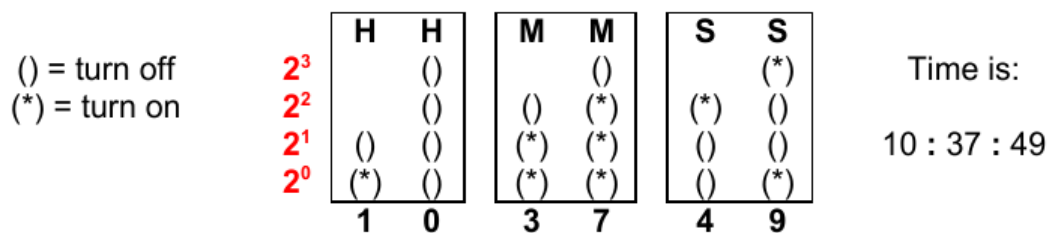


4307 Binary Clock

A binary clock is a clock which displays traditional sexagesimal time in a binary format. The most common binary clock uses six columns of LEDs to represent zeros and ones. Each column represents a single decimal digit, a format known as binary-coded decimal (BCD). The bottom row in each column represents 1 (or 2), with each row above representing higher powers of two, up to 2^3 (or 8). To read each individual digit in the time, the user adds the values that each illuminated LED represents, and then reads these from left to right. The first two columns represent the hour, the next two represent the minute, and the last two represent the second.

For example:



Your task for this problem is simple: read an hour in its binary format and output its equivalent in sexagesimal time format.

In order to facilitate your task, each one of the six columns of LEDs than represents a single decimal digit is concatenated as shown below.

For example, 10:37:49 would be written as:

()(*)()()()()()(*)(*)()(*)(*)(*)(*)()()(*)()()(*)

Input

The input consists of multiple test cases. The first line of input contains a single integer N , ($1 \leq N \leq 1000$) which is the number of test cases that follow. Each test case consists of a single line containing a string that represents an hour in its binary format. The length of the LEDs string is guaranteed to be ≤ 54 .

Output

For each test case, print the case number (beginning with 1) followed by the hour in its equivalent sexagesimal time format ($HH:MM:SS$). Follow the format shown in the sample output.

Sample Input

2
 ()(*)()()()()()(*)(*)()(*)(*)(*)(*)()()(*)()()(*)
 ()()()()()()()()()()()()()()()()()

Sample Output

Case 1: 10:37:49
 Case 2: 00:00:00