

It's always 5 PM somewhere

Jimmy B, the patron saint of Margaritas insists it is always a good time for a drink. His friend Tim, determined to be contrary, postulates that time is a relative human construct and it is not 5 PM anywhere, much less somewhere. To prove Tim wrong, Jimmy decides to examine the time in all the cities he can look up and find cities where the time is 5 PM. The only resource Jimmy can access lists cities with the time difference from the current location (Tallahassee, FL). For example, the entry for Seattle, WA is -3 0, since the time in Seattle is 3 hours and 0 minutes behind Tallahassee time. Since Math and Margaritas don't (ahem) mix, Jimmy decides to solve his problem with a program.

Input

The first line of input is the time in Tallahassee in the 24-hour format as 2 space-separated integers, $0 \leq H \leq 23$ and M (either 0 or 30). The second line is the number of cities C . The next C lines will consist of the name of a city, followed by a comma, followed by the time difference between Tallahassee and that city, also as 2 integers $-23 \leq \text{hours} \leq 23$ and minutes (either 0 or 30).

Output

The output is the names of the cities where the time is currently 5 PM (or 17 00 in the 24-hour format). Please output one city per line.

Sample

The Sample shows 3 separate test cases.

Input	Output
7 30 3 Dubai, 8 0 Mumbai, 9 30 Seattle, -3 0	Mumbai
18 0 2 Austin, -1 0 New Orleans, -1 0	Austin New Orleans
12 0 2 Sao Paulo, 1 0 London, 5 0	London