Problem 5—Combination Lock

Professor Plum likes to fiddle with combination padlocks while he watches TV. His favorite is a MasterLock brand (see picture). It has 40 numbers (0-39) arrayed clockwise around the dial. A combination consists of 3 of these numbers, say 15 25 8. To open the lock, he always does the following steps:

- turn the dial clockwise 2 full turns from its initial starting position
- continue turning clockwise and stop at the first number of the combination
- turn the dial counter-clockwise 1 full turn
- continue turning counter-clockwise and stop at the second number of the combination
- turn the dial clockwise again and stop at the third number
- finally pull down hard on the body of the lock and it will open.

Given the initial position of the dial and the combination for the lock, he wants you to write a program to determine how many numbers you need to rotate through (both clockwise and counterclockwise) while opening the lock.

Input Format

The first line of the input contains an integer count of the number combinations to solve. Each of the remaining lines will consist of four integers: the starting position on the dial followed by the three number combination.

Output Format

For each combination in the input, one line of output should be produced containing either the total number of dial positions traversed, or the word "Error". "Error" should be produced if the starting position or any number in the combination is illegal (i.e., not between 0 and 39 inclusive).

Input Sample

```
4
0 17 21 35
0 14 22 56
10 5 10 15
40 8 50 20
```

Output Sample

```
173
Error
165
Error
```