1069 – Lift

All of you must have noticed that the lift of AIUB is not available for students. But since you deny obeying usual rules, you always use this lift no matter what happens!

Now one day you were sleeping in the class and when you woke up you found none in the department except the guard who was in a deep sleep in his room. But luckily you found the lift on. So, you want to go to the ground floor using the lift. But the lift can be in a different floor. Then you must wait for the lift to come to your floor. Assume that it takes 4 seconds for the lift to go from any floor to its adjacent floor (up or down). It takes 3 seconds to open or close the door of the lift and you need 5 seconds to enter or exit the lift. Given your position and the lift's position you have to calculate the time for you to reach the ground floor (floor 0). Reaching ground floor means you must get out of the lift in ground floor.

Input

Input starts with an integer **T (≤ 25)**, denoting the number of test cases.

Each case contains two integers. The first integer means your position (different than 0) and the second integer means the position of the lift. Assume that the department has **100** floors (may be one day it will be :D).

Output

For each case, print the case number and the calculated time in seconds.

Sample Input	Output for Sample Input
3 1 2 3 10 5 5	Case 1: 27 Case 2: 59 Case 3: 39