Problem D
Queens

Time limit: 3 seconds
Memory limit: 256 megabytes

Problem Description

Queens are the most powerful units in chess games. A queen can attack any other unit horizontally, vertically, and diagonally. The n queens problem is to place n queens on an n-by-n chessboard so that no queens attacking others. Suppose there is already a queen placed on the intersection of row r and column c of a 9-by-9 board. How many ways to solve the 9 queen problem under such restriction?

Input Format

The first line of the input contains an integer t ($t \leq 100$). Each test case is a line containing two integers r and c separated by a blank where $r, c \in \{1, \ldots, 9\}$.

Output Format

For each test case, output the number of ways to place queens so that no queen attacking others.

Sample Input

```
5
1 1
2 2
3 3
4 4
5 5
```

Sample Output

```
28
32
28
36
40
```