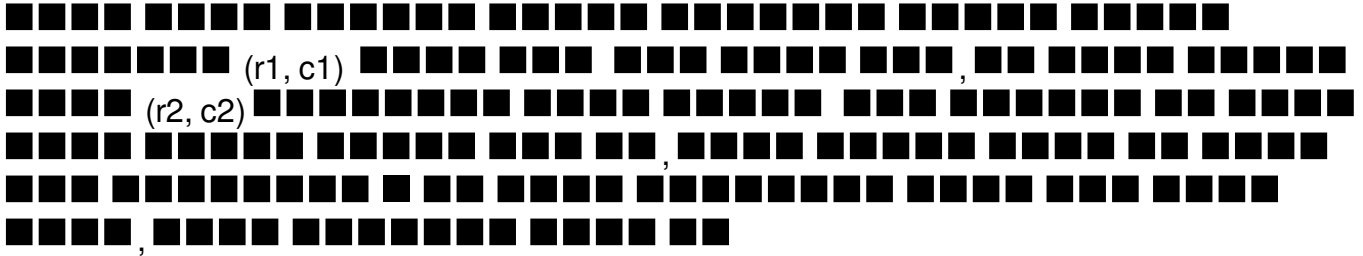


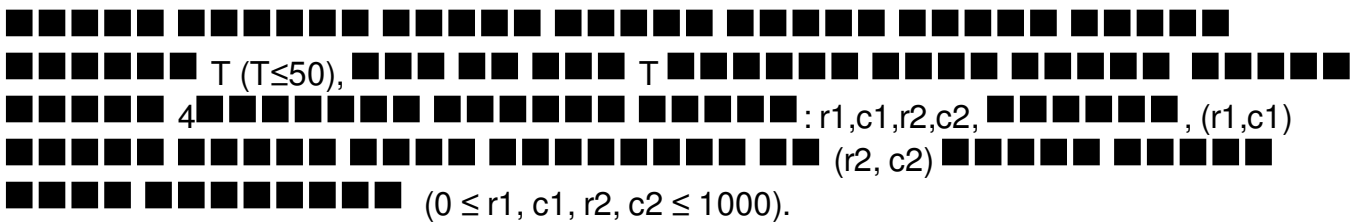
# Kings on an Infinite Chessboard

Given an infinite chess board and a starting position  $(r1, c1)$  find how many moves a traditional chess king will need to move to another position  $(r2, c2)$ . In case you do not know how a chess king moves, a traditional chess king can go to any of its 8 adjacent cells in a single move as shown in the picture below:



## Input

The first line of input file contains the number of test cases  $T$  ( $T \leq 50$ ), then  $T$  lines follow. Each line contains 4 integers:  $r1, c1, r2, c2$ , where,  $(r1, c1)$  is the co-ordinate of the starting cell and  $(r2, c2)$  is the co-ordinate of the destination cell ( $0 \leq r1, c1, r2, c2 \leq 1000$ ).



## Output

For each case, print a line containing "Case X: Y", without the quotes, where X is the test case number starting from 1, and Y is the number of moves a traditional chess king will need to reach  $(r2, c2)$  from  $(r1, c1)$ . Check sample input and output sections for more details.

