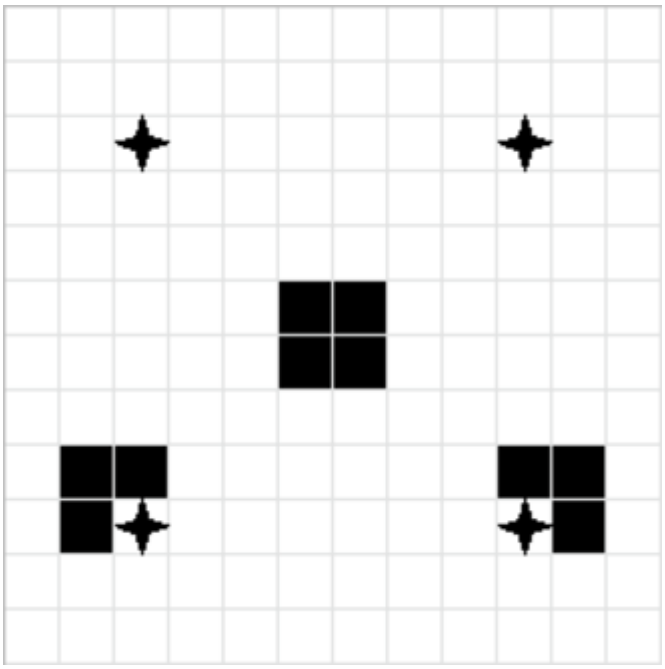
Problem D. Robots Easy

Time limit	1000 ms
Mem limit	262144 kB
OS	Windows

Alice was playing her favorite game, "Tales of the Abyss", while playing she encountered the following puzzle that can be described as a 12×12 grid:



A robot is standing somewhere in this grid, you can order the robot to move up, down, right or left. The robot can't move to a blocked cell(fully black cell), but it can move to other cells(white and crossed cells). If you order the robot to move to a blocked cell or to move outside the grid then the robot won't move.

The goal of the puzzle is to move the robot to a crossed cell in at most 1000 moves. You will be given the description of some levels of this puzzle that Alice has solved, can you solve them too?

Input

In the first line you will be given the integer $L(1 \leq L \leq 134)$, the number of levels you need to solve.

Then you will be given L lines describing the levels, each line will contain two integers $r, c(1 \leq r, c \leq 12)$, the row and column of the cell the robot is currently standing at, it's guaranteed that this cell is not a blocked cell(not a fully black cell). The rows are numbered from top(1) to bottom(12), and columns are numbered from left(1) to right(12).

Output

For each level output **exactly** 2 lines, the first line containing a single integer $n(0 \leq n \leq 1000)$, representing the number of moves you want to make, and the second line a string of length n made of the letters 'U','D','R' and 'L'(upper_case) meaning Up, Down, Right and Left describing the moves.

Please note that in order to get accepted you have to follow the above format exactly, printing the number of moves and the string on the same line, or printing lower_case letters instead of upper_case for example might give you a wrong answer verdict.

Sample 1

Input	Output
2 2 3 9 4	4 UUDD 3 LDL

Note

In the first level, the robot moves as follows: $(2, 3) \rightarrow (1, 3) \rightarrow (1, 3) \rightarrow (2, 3) \rightarrow (3, 3)$.

In the second level, the robot moves as follows: $(9, 4) \rightarrow (9, 4) \rightarrow (10, 4) \rightarrow (10, 3)$.