We are given a chessboard where some cells contain one piece. Pieces can have different colors and different shapes. Moreover we are given a starting point, that is a non empty cell. We can move along the chessboard either horizontally or vertically (i.e. no diagonal moves are allowed) and the step length can be whatever (i.e. we can jump over occupied cells). A move is feasible if the destination cell contains a piece with the same shape or the same color of the origin cell.

The problem consists in finding whether there exists a path starting from the given cell and touching all non empty cells that uses feasible moves only.

In the picture below we show one example of a path on a chessboard $3 \times 3$. The starting cell is indicated by a cross.
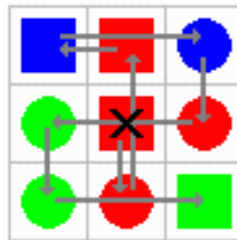


Formulate the problem of finding a feasible sequence of moves touching all pieces for the attached instance.

Return the .mod and .dat files by email at `gualandi_at_elet.polimi.it` with subject `EXAM FROD SUBMISSION`.