

CS110: Computer Programming Lab

Department of CSE

IIT, Guwahati

Module 02 Stage 02 Exercise 07

Problem description

Game of tic-tac-toe has a board of 3 rows and 3 columns. During a game the positions on the board are either unoccupied or have a single character. The only valid characters in a position are 'O' and 'X'. To avoid confusion in the input of a board position, we will mark the unoccupied position by character '?' in the input.

Write a program that reads three input lines (rows) of 5 characters each. The characters in the line keyed-in from a key-board at positions 2 and 4 are always spaces; other characters in each input line are 'O', 'X' or '?'.

The input is invalid if it contains other characters in a position. It is also invalid if counts of 'O' and 'X' on board differ more than 1.

The purpose of this program is to propose the next move of the computer.

Your program first needs to determine the symbol it is playing for. The choice of computer's symbol is determined by the counts of two main symbols. The one with the smaller count is about to make the next move. If both counts are same, then the program should choose 'X'.

Your program must first look for any line (row, column, diagonal) with two opponent's symbols and third empty position ('?'). The program output must report its coordinates as the output.

Otherwise, report any unoccupied position as output.