#include <stdio.h>

#include <ctype.h> // for tolower()

char board[3][3] = {

{'1', '2', '3'},

{'4', '5', '6'},

{'7', '8', '9'}

};

void drawBoard()

{

printf("\n");

printf(" %c | %c | %c \n", board[0][0], board[0][1], board[0][2]);

printf("---|---|---\n");

printf(" %c | %c | %c \n", board[1][0], board[1][1], board[1][2]);

printf("---|---|---\n");

printf(" %c | %c | %c \n", board[2][0], board[2][1], board[2][2]);

printf("\n");

}

void updateBoard(int position, char mark)

{

int row = (position - 1) / 3;

int col = (position - 1) % 3;

board[row][col] = mark;

}

int checkWin(char mark)

{ // Check rows

for (int i = 0; i < 3; i++)

{

if (board[i][0] == mark && board[i][1] == mark && board[i][2] == mark)

{

return 1;

}

}// Check columns

for (int j = 0; j < 3; j++)

{

if (board[0][j] == mark && board[1][j] == mark && board[2][j] == mark)

{

return 1;

}

} // Check diagonals

if (board[0][0] == mark && board[1][1] == mark && board[2][2] == mark)

{

return 1;

}

if (board[0][2] == mark && board[1][1] == mark && board[2][0] == mark)

{

return 1;

}

return 0;

}

int main()

{

char player1 = 'X';

char player2 = 'O';

int currentPlayer = 1;

int position;

int gameStatus;

do {

drawBoard();

char currentMark = (currentPlayer == 1) ? player1 : player2;

// Prompt player for their move

printf("Player %d, enter a number (1-9) to make your move: ", currentPlayer);

scanf("%d", &position); // Update the board

updateBoard(position, currentMark); // Check if the game is won or tied

if (checkWin(currentMark))

{

gameStatus = currentPlayer;

break;

} // Check if all positions have been filled (i.e., game is a tie)

int filled = 1;

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

if (board[i][j] != player1 && board[i][j] != player2)

{

filled = 0;

break;

}

}

if (!filled)

{

break;

}

}

if (filled)

{

gameStatus = 0;

break;

}// Switch to other player

if (currentPlayer == 1)

{

currentPlayer = 2;

}

else

{

currentPlayer = 1;

}

} while (1);// Display final board

drawBoard();// Display winner/tie message

if (gameStatus == 0)

{

printf("Game is a tie.\n");

}

else

{

printf("Player %d wins!\n", gameStatus);

}

return 0;

}