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**Assignment 1-A :Tic tac toe game with Non-AI approach**

**Code-**

package AI\_Lab;

import java.util.Scanner;

public class TicTacToe {

static void displayBoard(char[][] board) {

System.***out***.println("\n-------------");

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

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

System.***out***.print("| " + board[i][j] + " ");

}

System.***out***.println("|");

System.***out***.println("-------------");

}

}

static boolean checkWinner(char[][] board, char player) {

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

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

return true;

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

return true;

}

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

return true;

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

return true;

return false;

}

public static void main(String[] args) {

char[][] board = new char[3][3];

char[][] board1 = new char[3][3];

int row, col, pos;

char player = 'X';

char ok;

int moves = 0, n = 1;

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

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

board[i][j] = '-';

board1[i][j] = (char) (n + '0');

n++;

}

}

Scanner scanner = new Scanner(System.***in***);

System.***out***.println("Welcome to Tic-Tac-Toe!\n");

System.***out***.println("\*\*\*\*\*\*\*Remember the positions\*\*\*\*\*\*");

*displayBoard*(board1);

System.***out***.print("Press Y to Start: ");

ok = scanner.next().charAt(0);

if (ok == 'Y' || ok == 'y') {

*displayBoard*(board);

while (true) {

System.***out***.print("\nPlayer " + player + "'s turn: ");

pos = scanner.nextInt();

// Check if the move is valid

if (pos > 9 || pos < 1) {

System.***out***.println("Invalid move. Try again.");

continue;

}

if (pos == 1 && board[0][0] != '-') {

continue;

}

if (pos == 2 && board[0][1] != '-') {

continue;

}

if (pos == 3 && board[0][2] != '-') {

continue;

}

if (pos == 4 && board[1][0] != '-') {

continue;

}

if (pos == 5 && board[1][1] != '-') {

continue;

}

if (pos == 6 && board[1][2] != '-') {

continue;

}

if (pos == 7 && board[2][0] != '-') {

continue;

}

if (pos == 8 && board[2][1] != '-') {

continue;

}

if (pos == 9 && board[2][2] != '-') {

continue;

}

// Update the board

if (pos == 1)

board[0][0] = player;

if (pos == 2)

board[0][1] = player;

if (pos == 3)

board[0][2] = player;

if (pos == 4)

board[1][0] = player;

if (pos == 5)

board[1][1] = player;

if (pos == 6)

board[1][2] = player;

if (pos == 7)

board[2][0] = player;

if (pos == 8)

board[2][1] = player;

if (pos == 9)

board[2][2] = player;

moves++;

*displayBoard*(board);

if (*checkWinner*(board, player)) {

System.***out***.println("Player " + player + " wins!");

break;

}

if (moves == 9) {

System.***out***.println("It's a tie!");

break;

}

player = (player == 'X') ? 'O' : 'X';

}

} else {

scanner.close();

return;

}

scanner.close();

}

}