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**Roll no**:28

**Tic-Tac-Toe (Non-AI approach):**

#include <iostream>

#include <stdlib.h>

using namespace std;

char board[3][3] = {{'1','2','3'},{'4','5','6'},{'7','8','9'}};

int choice;

int row,column;

char turn = 'X';

bool draw = false;

void display\_board(){

cout<<"PLAYER - 1 [X] PLAYER - 2 [O]\n";

cout<<" | | \n";

cout<<" "<<board[0][0]<<" | "<<board[0][1]<<" | "<<board[0][2]<<" \n";

cout<<"\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\n";

cout<<" | | \n";

cout<<" "<<board[1][0]<<" | "<<board[1][1]<<" | "<<board[1][2]<<" \n";

cout<<"\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\n";

cout<<" | | \n";

cout<<" "<<board[2][0]<<" | "<<board[2][1]<<" | "<<board[2][2]<<" \n";

cout<<" | | \n";

}

void player\_turn(){

if(turn == 'X'){

cout<<"Player1 [X] turn : ";

}

else if(turn == 'O'){

cout<<"Player2 [O] turn : ";

}

cin>> choice;

if (choice >= 1 && choice <= 9) {

switch(choice){

case 1: row=0; column=0; break;

case 2: row=0; column=1; break;

case 3: row=0; column=2; break;

case 4: row=1; column=0; break;

case 5: row=1; column=1; break;

case 6: row=1; column=2; break;

case 7: row=2; column=0; break;

case 8: row=2; column=1; break;

case 9: row=2; column=2; break;

}

if(turn == 'X' && board[row][column] != 'X' && board[row][column] != 'O'){

board[row][column] = 'X';

turn = 'O';

}else if(turn == 'O' && board[row][column] != 'X' && board[row][column] != 'O'){

board[row][column] = 'O';

turn = 'X';

}else {

cout<<"Box already filled!n Please choose another!!\n";

player\_turn();

}

}

else {

cout << "Invalid Move! Please choose a number from 1 to 9.\n";

player\_turn();

}

display\_board();

}

bool gameover(){

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

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

return false;

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

return false;

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

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

if(board[i][j] != 'X' && board[i][j] != 'O')

return true;

draw = true;

return false;

}

int main()

{

cout<<"T I C -- T A C -- T O E\n";

cout<<"FOR 2 PLAYERS GAME\n";

cout<<"enter number from 1-9 \n";

while(gameover()){

player\_turn();

gameover();

}

if(turn == 'X' && draw == false){

cout<<"Congratulations!Player with 'O' has won the game";

}

else if(turn == 'O' && draw == false){

cout<<"Congratulations!Player with 'X' has won the game";

}

else

cout<<"GAME IS DRAW!!!";

}

**Output**:





