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| tic-tac-toe (programming fundamentals) |  |
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**About game:**

Tic Tac Toe works by drawing Xs and Os in a 3x3 grid. Two players choose between one of the given symbols (X or O) and then the game starts. Players take turns to draw their symbols, but they can only draw once per turn. The player who first draws his/her respective symbol horizontally, vertically, or diagonally wins the game. The following picture depicts how the 3x3 grid looks after a player won the game.

**Code**

#include <iostream>

using namespace std;

char square[10] = {'o','1','2','3','4','5','6','7','8','9'};

int checkwin();

void board();

int main()

{

    int player = 1,i,choice;

    char mark;

    do

    {

        board();

        player=(player%2)?1:2;

        cout << "Player " << player << ", enter a number:  ";

        cin >> choice;

        mark=(player == 1) ? 'X' : 'O';

        if (choice == 1 && square[1] == '1')

            square[1] = mark;

        else if (choice == 2 && square[2] == '2')

            square[2] = mark;

        else if (choice == 3 && square[3] == '3')

            square[3] = mark;

        else if (choice == 4 && square[4] == '4')

            square[4] = mark;

        else if (choice == 5 && square[5] == '5')

            square[5] = mark;

        else if (choice == 6 && square[6] == '6')

            square[6] = mark;

        else if (choice == 7 && square[7] == '7')

            square[7] = mark;

        else if (choice == 8 && square[8] == '8')

            square[8] = mark;

        else if (choice == 9 && square[9] == '9')

            square[9] = mark;

        else

        {

            cout<<"Invalid move ";

            player--;

            cin.ignore();

            cin.get();

        }

        i=checkwin();

        player++;

    }while(i==-1);

    board();

    if(i==1)

        cout<<"==>\aPlayer "<<--player<<" win ";

    else

        cout<<"==>\aGame draw";

    cin.ignore();

    cin.get();

    return 0;

}

int checkwin()

{

    if (square[1] == square[2] && square[2] == square[3])

        return 1;

    else if (square[4] == square[5] && square[5] == square[6])

        return 1;

    else if (square[7] == square[8] && square[8] == square[9])

        return 1;

    else if (square[1] == square[4] && square[4] == square[7])

        return 1;

    else if (square[2] == square[5] && square[5] == square[8])

        return 1;

    else if (square[3] == square[6] && square[6] == square[9])

        return 1;

    else if (square[1] == square[5] && square[5] == square[9])

        return 1;

    else if (square[3] == square[5] && square[5] == square[7])

        return 1;

    else if (square[1] != '1' && square[2] != '2' && square[3] != '3'

                    && square[4] != '4' && square[5] != '5' && square[6] != '6'

                  && square[7] != '7' && square[8] != '8' && square[9] != '9')

        return 0;

    else

        return -1;

}

void board()

{

    system("cls");

    cout << "\n\n\tTic Tac Toe\n\n";

    cout << "Player 1 (X)  -  Player 2 (O)" << endl << endl;

    cout << endl;

    cout << "     |     |     " << endl;

    cout << "  " << square[1] << "  |  " << square[2] << "  |  " << square[3] << endl;

    cout << "\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_" << endl;

    cout << "     |     |     " << endl;

    cout << "  " << square[4] << "  |  " << square[5] << "  |  " << square[6] << endl;

    cout << "\_\_\_\_\_|\_\_\_\_\_|\_\_\_\_\_" << endl;

    cout << "     |     |     " << endl;

    cout << "  " << square[7] << "  |  " << square[8] << "  |  " << square[9] << endl;

    cout << "     |     |     " << endl << endl;

}

**Output**

