Tic Tac Toe
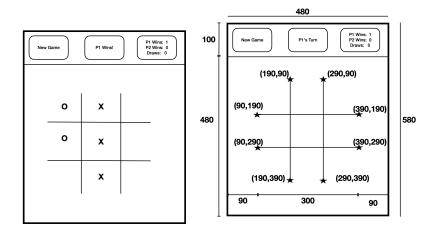**Due: Thursday, April 21 2022, 1159pm**

Objective

Implement a simple graphical game of Tic-Tac-Toe. https://en.wikipedia.org/wiki/
Tic-tac-toe The game is played on a 3x3 grid between two players. Each player takes
a turn marking a square with either an X or an O. The first player to get three in a row
(horizontal, vertical, or diagonal) wins the game. If all the squares are filled and no one
wins, the game is a draw. You are allowed to work with one other person on this project.
You are also allowed to complete it solo.

Requirements

Your program should consist of two panels. An upper panel for displaying stats, the current
player's turn, and a new game button. A lower panel for displaying the game board. (I.e.,
in the style of HW5.) You must process MouseEvents. (I.e., what you did for HW4.)

The game board should be a centered grid of lines. As an example, the included figure
shows coordinates for a 480x480 window, but you should build your program to work with
larger windows.

You should use the following general design:

- a custom JPanel for displaying the stats

- a custom JPanel for displaying the board

- a custom JFrame for putting everything together

Please note that the game should scale properly when resizing the window. It doesn't have to maintain a perfect rectangle, but if you click and drag to make the window larger then the game board should correspondingly "expand."

Additionally, you may NOT use JButtons for the individual "cells" of the board. Instead, you must process the mouse click events by click location.

Submission and Grading

Please understand that your TAs are also students with significant workloads and stress – the easiest project to grade is one that works well. In the event that your program does not work (especially if it crashes) you will lose points. We will not be debugging your solution for partial credit, but we will not be trying to exhaustively test your program either. The goal is to build a game that is playable and works well. You are strongly encouraged to get started on this project soon.

Submit your work by Thursday, April 21 at 11:59PM (EDT). You should name your main class TTTGame, but you can use whatever other names and files that you like. The important part is that your program works. You may submit either a single Java file, or a zip of multiple Java files, it is up to you.

- New Game button works (10pts)

- Game board works (60pts)

- Win conditions recognized (10pts)

- Current player / status indicated (10pts)

- Win/lose/draw statistics indicated (10pts)