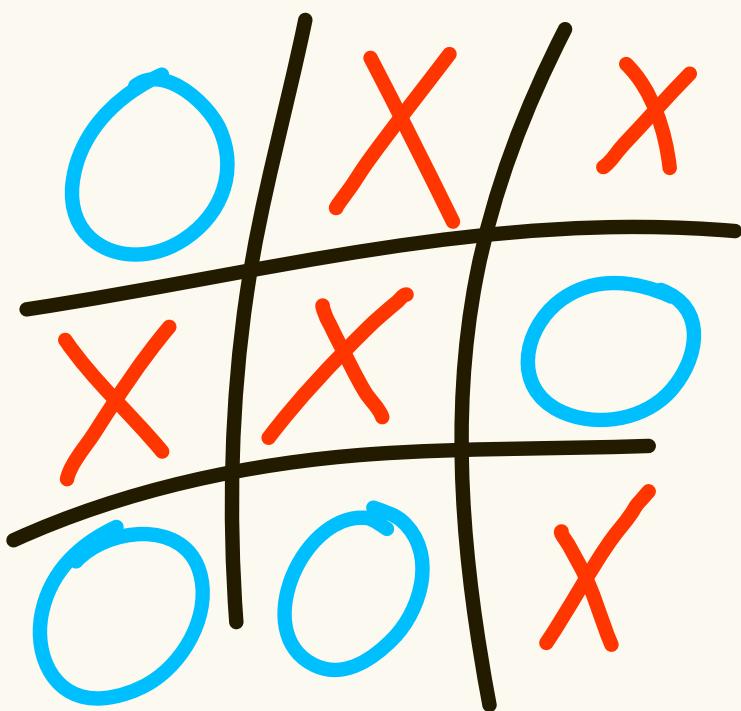


TIC TAC TOE



GAME

ORGANIZER

ชื่อ-สกุล : นางสาวพิมลนาฏ หัตถก้อง

รหัสบัตร์ : **6530300368**

ปีสิตชั้นปีที่ 1 ปีการศึกษา **2565** ภาคเรียนที่ 2



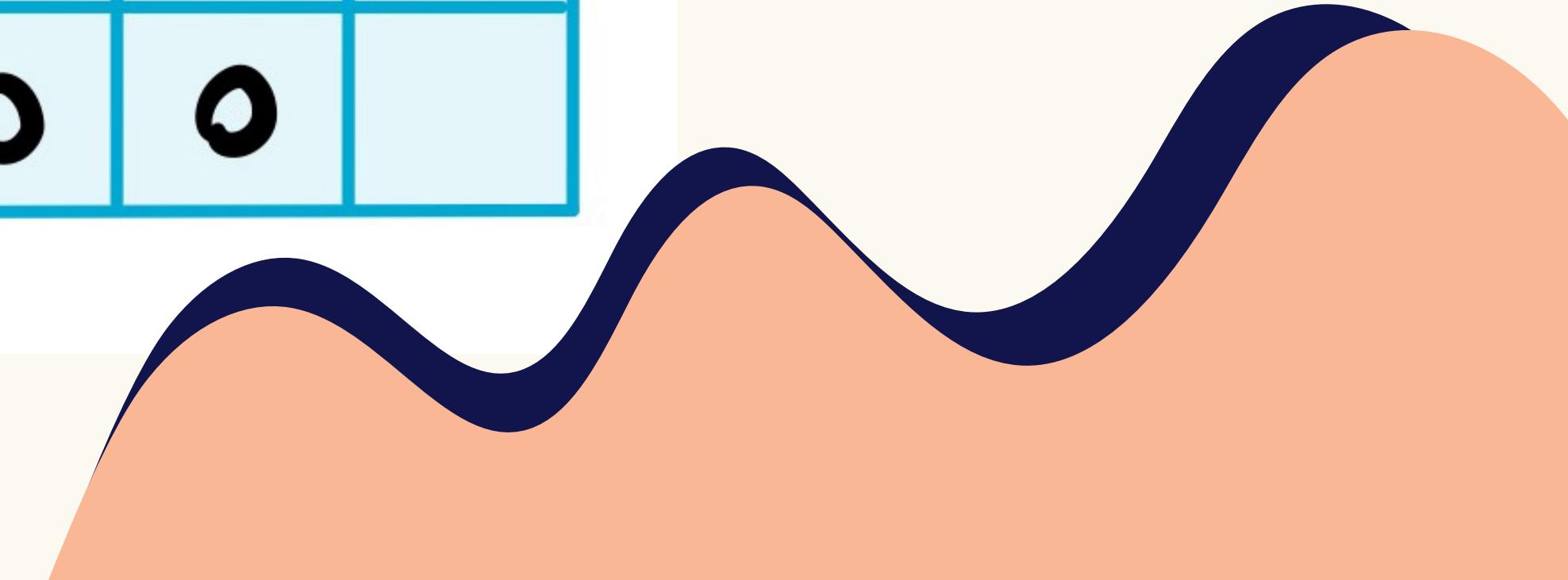
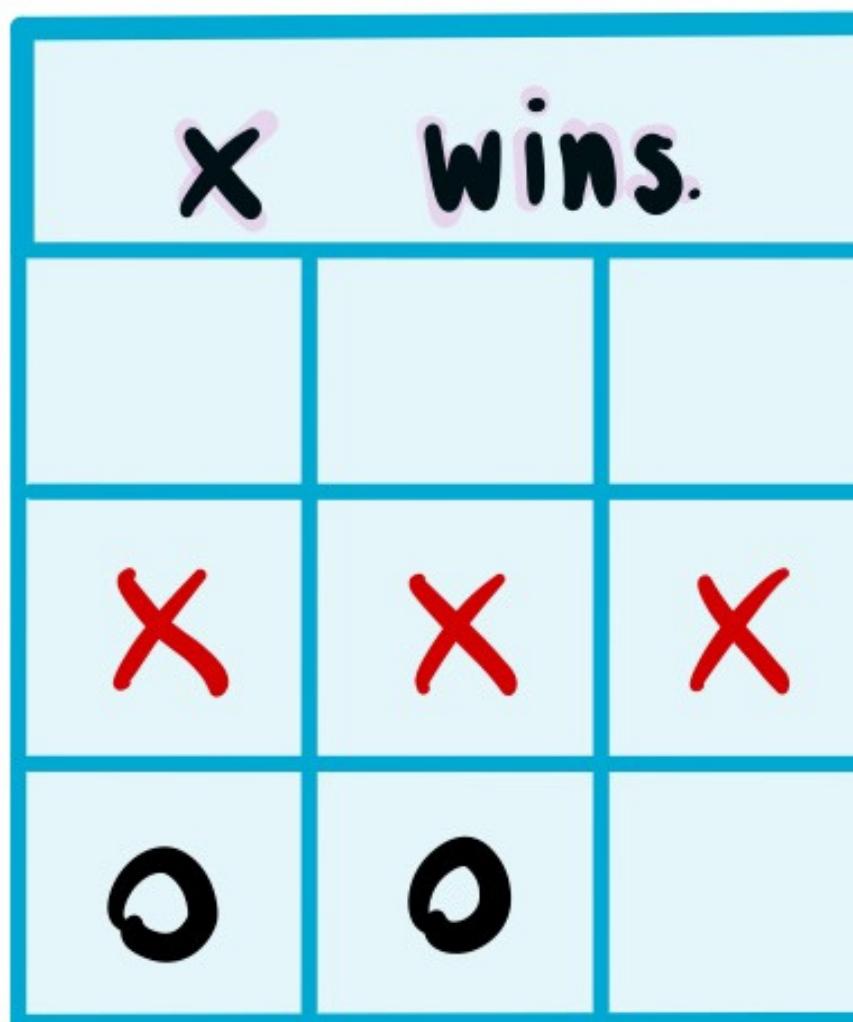
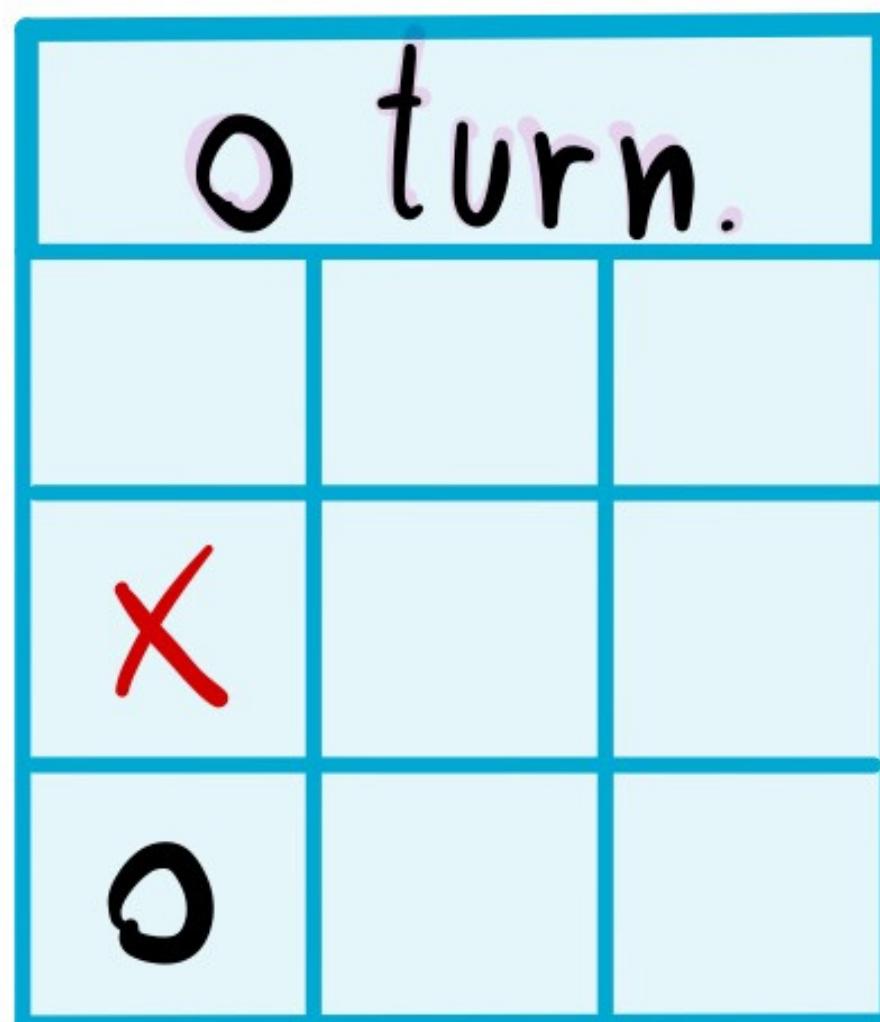
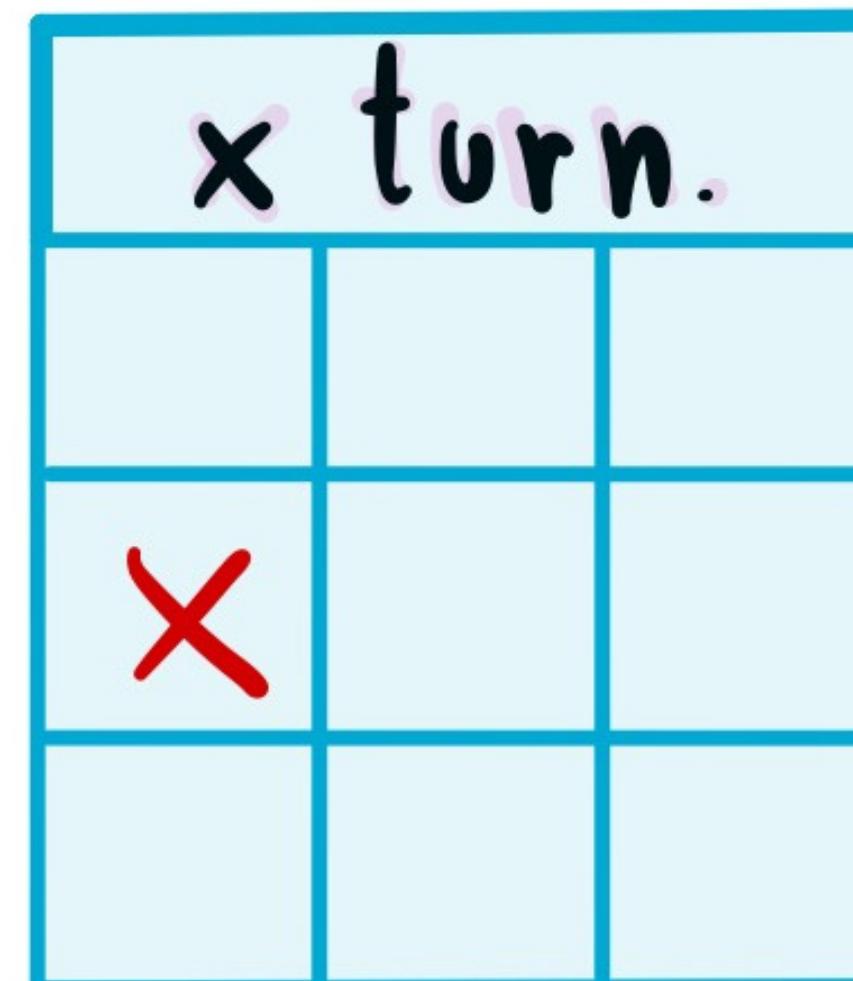
คณะ : วิศวกรรมศาสตร์ศรีราชฯ

สาขา : วิศวกรรมคอมพิวเตอร์และสารสนเทศศาสตร์

เสนออาจารย์ : อาจารย์ กุลวดี สมบูรณ์วัฒน์

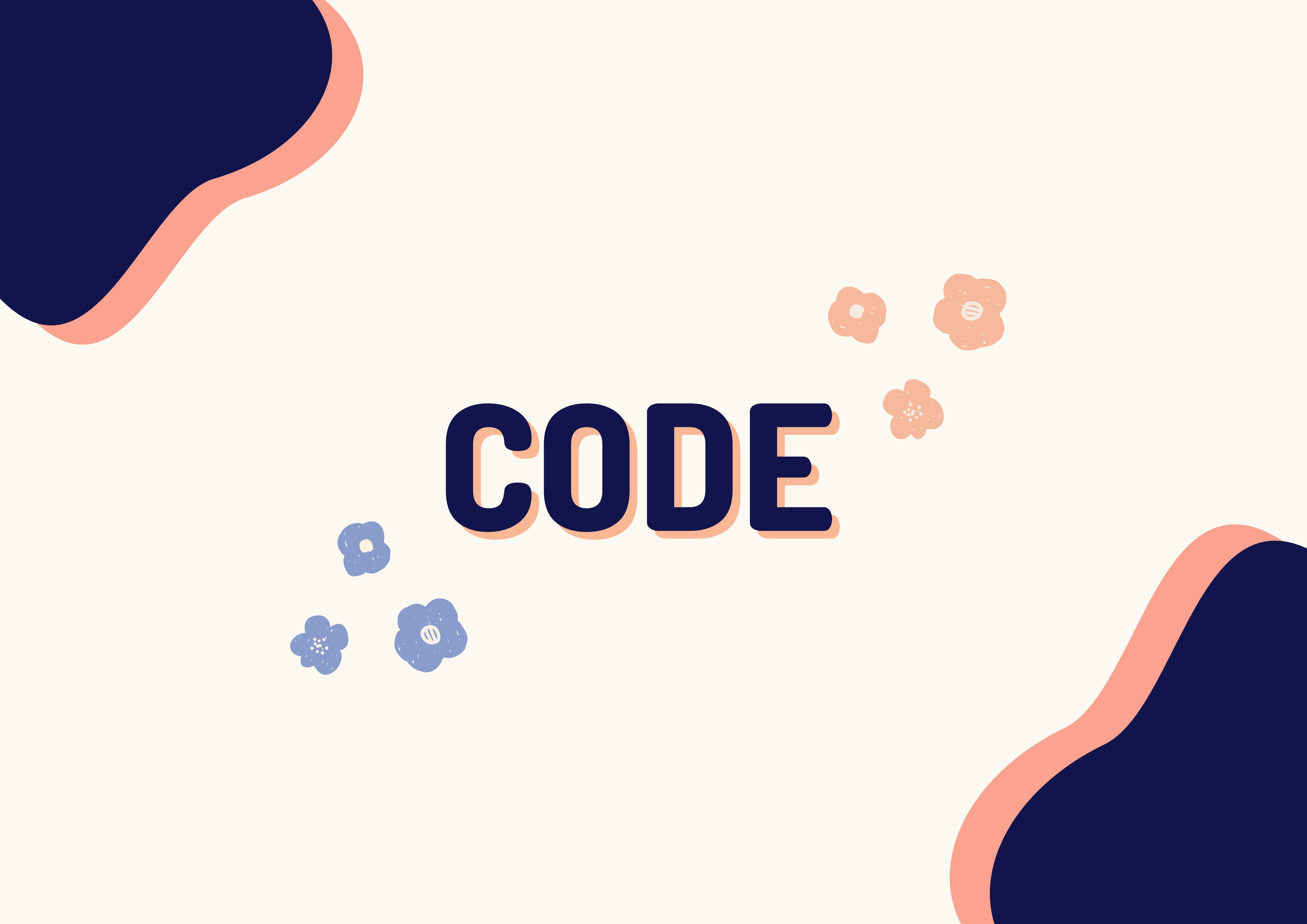
มหาวิทยาลัย : เกษตรศาสตร์วิทยาเขตศรีราชฯ

UI



CLASS DIAGRAM





CODE

```
J TicTacToe.java > ...
1 ˜ import java.awt.*;
2  import java.awt.event.*;
3  import java.util.*;
4  import javax.swing.*;
5
6 ˜ public class TicTacToe implements ActionListener {
7      Random random = new Random();
8      JFrame frame = new JFrame();
9      JPanel title_panel = new JPanel();
10     JPanel button_panel = new JPanel();
11     JLabel textfield = new JLabel();
12     JButton[] buttons = new JButton[9];
13     boolean player1_turn;
14
```

IMPORT FUNCTION เข้ามาใช้ และสร้าง CLASS ชื่อ TICTACTOE

```
15     TicTacToe() {
16
17         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
18         frame.setSize(width:800, height:800);
19         frame.getContentPane().setBackground(new Color(r:50, g:50, b:50));
20         frame.setLayout(new BorderLayout());
21         frame.setVisible(b:true);
22
23         textfield.setBackground(new Color(r:25, g:25, b:25));
24         textfield.setForeground(new Color(r:255, g:255, b:0));
25         textfield.setFont(new Font(name:"Ink Free", Font.BOLD, size:75));
26         textfield.setHorizontalAlignment(JLabel.CENTER);
27         textfield.setText(text:"Tic-Tac-Toe");
28         textfield.setOpaque(isOpaque:true);
29
30         title_panel.setLayout(new BorderLayout());
31         title_panel.setBounds(x:0, y:0, width:800, height:100);
32
33         button_panel.setLayout(new GridLayout(rows:3, cols:3));
34         button_panel.setBackground(new Color(r:150, g:150, b:150));
35
36         for (int i = 0; i < 9; i++) {
37             buttons[i] = new JButton();
38             button_panel.add(buttons[i]);
39             buttons[i].setFont(new Font(name:"MV Boli", Font.BOLD, size:120));
40             buttons[i].setFocusable(focusable:false);
41             buttons[i].addActionListener(this);
42         }
43
44         title_panel.add(textfield);
45         frame.add(title_panel, BorderLayout.NORTH);
46         frame.add(button_panel);
```

เป็นการสร้าง Frame หน้าต่างของเกม กำหนดสีพื้นหลัง ใช้สีประจำ RGB และตั้งค่าในส่วนของข้อความ พร้อมกับขนาด ให้อยู่กึ่งกลางของหน้าต่าง และตั้งค่าให้ข้อความแสดงชื่อเกม ชื่อ TICTACTOE และกำหนดตารางให้มี 9 ช่อง

```
48     firstTurn();
49 }
50
51 @Override
52 public void actionPerformed(ActionEvent e) {
53
54     for (int i = 0; i < 9; i++) {
55         if (e.getSource() == buttons[i]) {
56             if (player1_turn) {
57                 if (buttons[i].getText() == "") {
58                     buttons[i].setForeground(new Color(r:255, g:0, b:0));
59                     buttons[i].setText(text:"X");
60                     player1_turn = false;
61                     textfield.setText(text:"0 turn");
62                     check();
63                 }
64             } else {
65                 if (buttons[i].getText() == "") {
66                     buttons[i].setForeground(new Color(r:255, g:0, b:255));
67                     buttons[i].setText(text:"0");
68                     player1_turn = true;
69                     textfield.setText(text:"X turn");
70                     check();
71                 }
72             }
73         }
74     }
75 }
```

Action performance

```
76  
77     public void firstTurn() {  
78  
79         try {  
80             Thread.sleep(millis:2000);  
81         } catch (InterruptedException e) {  
82             // TODO Auto-generated catch block  
83             e.printStackTrace();  
84         }  
85  
86         if (random.nextInt(bound:2) == 0) {  
87             player1_turn = true;  
88             textfield.setText(text:"X turn");  
89         } else {  
90             player1_turn = false;  
91             textfield.setText(text:"O turn");  
92         }  
93     }
```

FirstTurn

เป็นส่วนของการสุ่ม Turn ของผู้เล่น

```

95     public void check() {
96         // check X win conditions
97         if ((buttons[0].getText() == "X") &&
98             (buttons[1].getText() == "X") &&
99             (buttons[2].getText() == "X")) {
100             xWins(a:0, b:1, c:2);
101         }
102         if ((buttons[3].getText() == "X") &&
103             (buttons[4].getText() == "X") &&
104             (buttons[5].getText() == "X")) {
105             xWins(a:3, b:4, c:5);
106         }
107         if ((buttons[6].getText() == "X") &&
108             (buttons[7].getText() == "X") &&
109             (buttons[8].getText() == "X")) {
110             xWins(a:6, b:7, c:8);
111         }
112         if ((buttons[0].getText() == "X") &&
113             (buttons[3].getText() == "X") &&
114             (buttons[6].getText() == "X")) {
115             xWins(a:0, b:3, c:6);
116         }
117         if ((buttons[1].getText() == "X") &&
118             (buttons[4].getText() == "X") &&
119             (buttons[7].getText() == "X")) {
120             xWins(a:1, b:4, c:7);
121         }
122         if ((buttons[2].getText() == "X") &&
123             (buttons[5].getText() == "X") &&
124             (buttons[8].getText() == "X")) {
125             xWins(a:2, b:5, c:8);
126         }
127         if ((buttons[0].getText() == "X") &&
128             (buttons[4].getText() == "X") &&
129             (buttons[8].getText() == "X")) {
130             xWins(a:0, b:4, c:8);
131         }
132         if ((buttons[2].getText() == "X") &&
133             (buttons[4].getText() == "X") &&
134             (buttons[6].getText() == "X")) {
135             xWins(a:2, b:4, c:6);
136         }

```

```

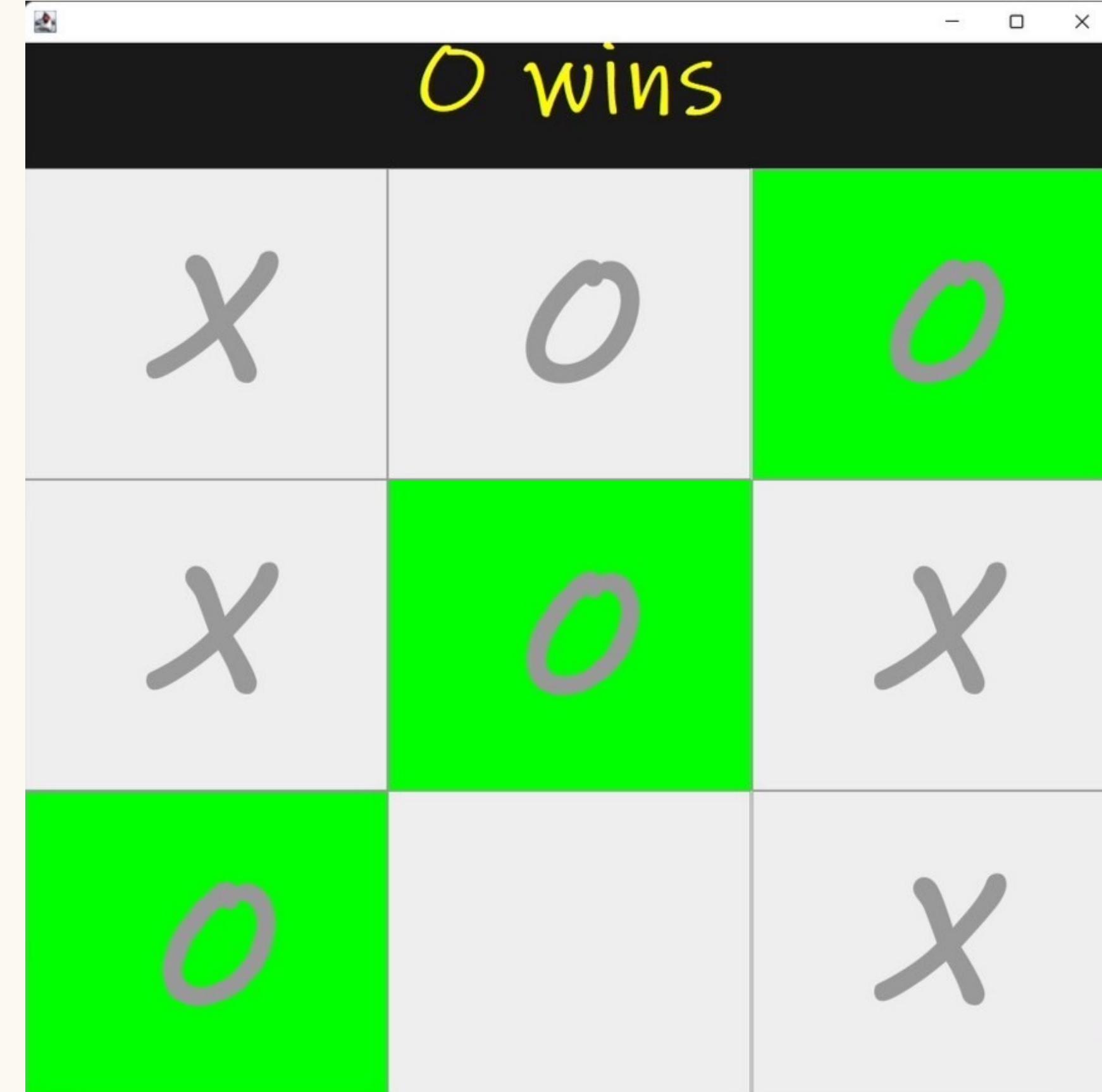
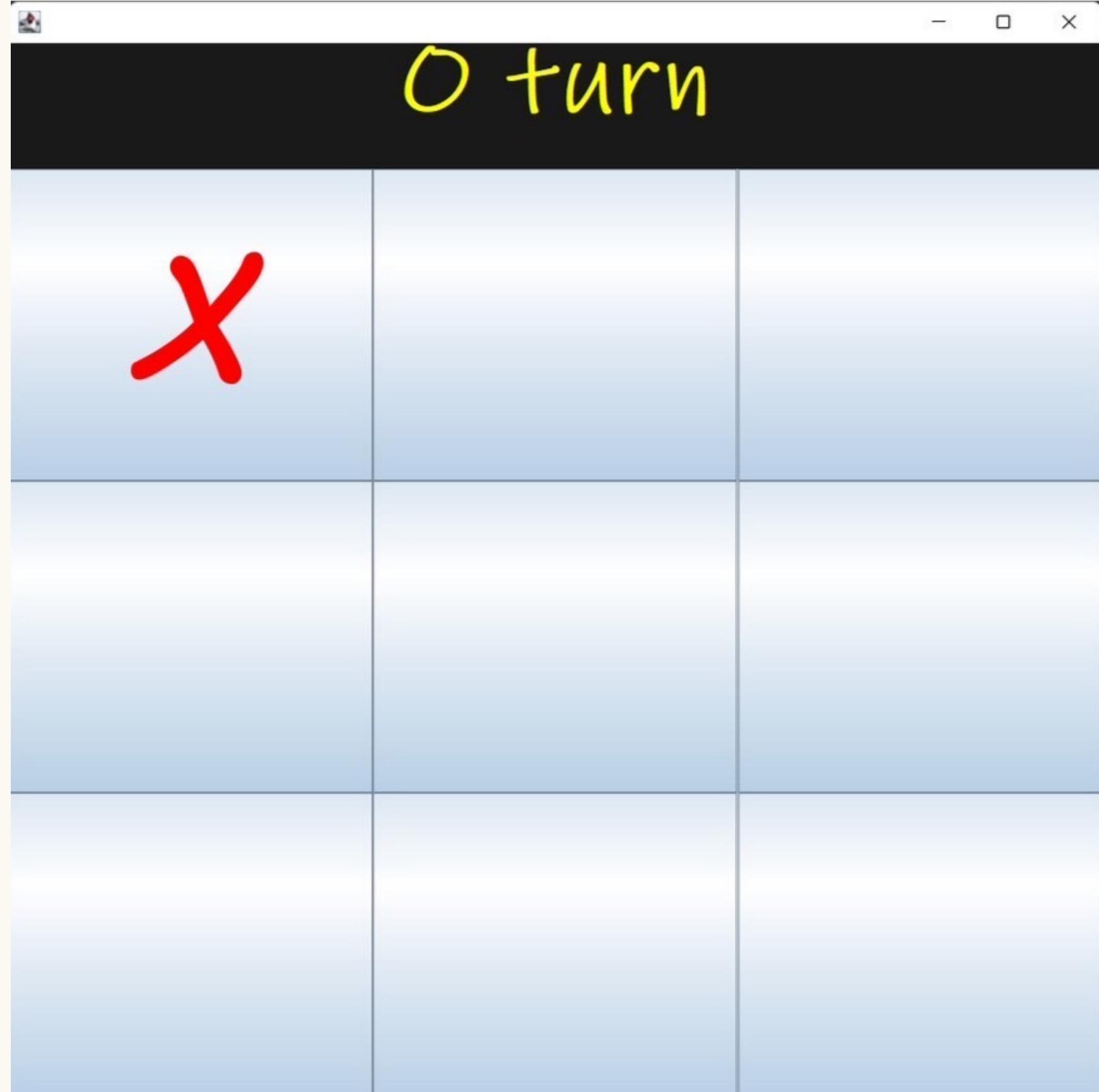
137         // check O win conditions
138         if ((buttons[0].getText() == "O") &&
139             (buttons[1].getText() == "O") &&
140             (buttons[2].getText() == "O")) {
141             oWins(a:0, b:1, c:2);
142         }
143         if ((buttons[3].getText() == "O") &&
144             (buttons[4].getText() == "O") &&
145             (buttons[5].getText() == "O")) {
146             oWins(a:3, b:4, c:5);
147         }
148         if ((buttons[6].getText() == "O") &&
149             (buttons[7].getText() == "O") &&
150             (buttons[8].getText() == "O")) {
151             oWins(a:6, b:7, c:8);
152         }
153         if ((buttons[0].getText() == "O") &&
154             (buttons[3].getText() == "O") &&
155             (buttons[6].getText() == "O")) {
156             oWins(a:0, b:3, c:6);
157         }
158         if ((buttons[1].getText() == "O") &&
159             (buttons[4].getText() == "O") &&
160             (buttons[7].getText() == "O")) {
161             oWins(a:1, b:4, c:7);
162         }
163         if ((buttons[2].getText() == "O") &&
164             (buttons[5].getText() == "O") &&
165             (buttons[8].getText() == "O")) {
166             oWins(a:2, b:5, c:8);
167         }
168         if ((buttons[0].getText() == "O") &&
169             (buttons[4].getText() == "O") &&
170             (buttons[8].getText() == "O")) {
171             oWins(a:0, b:4, c:8);
172         }
173         if ((buttons[2].getText() == "O") &&
174             (buttons[4].getText() == "O") &&
175             (buttons[6].getText() == "O")) {
176             oWins(a:2, b:4, c:6);
177         }
178     }

```

**ส่วนของการเช็คผลชนะของ X และ O
 (สลับกันวาง ฝ่ายใดเรียงกันได้ 3 ช่องก่อน ไม่ว่าจะเป็นแนวตั้ง^{แนวนอน หรือแทयง ได้ก่อนเป็นผู้ชนะ)}**

```
179  
180     public void xWins(int a, int b, int c) {  
181         buttons[a].setBackground(Color.GREEN);  
182         buttons[b].setBackground(Color.GREEN);  
183         buttons[c].setBackground(Color.GREEN);  
184  
185         for (int i = 0; i < 9; i++) {  
186             buttons[i].setEnabled(b:false);  
187         }  
188         textfield.setText(text:"X wins");  
189     }  
190  
191     public void oWins(int a, int b, int c) {  
192         buttons[a].setBackground(Color.GREEN);  
193         buttons[b].setBackground(Color.GREEN);  
194         buttons[c].setBackground(Color.GREEN);  
195  
196         for (int i = 0; i < 9; i++) {  
197             buttons[i].setEnabled(b:false);  
198         }  
199         textfield.setText(text:"O wins");  
200     }  
201 }  
202 }
```

**X win ถ้า X ชนะ พื้นหลังจะเป็นแถบสีเขียวทั้ง 3 ช่อง
และข้อความ X win ปรากฏขึ้นในส่วนบนหน้าต่างเกม**
**O win ถ้า O ชนะ พื้นหลังจะเป็นแถบสีเขียวทั้ง 3 ช่อง
และข้อความ O win ปรากฏขึ้นในส่วนบนหน้าต่างเกม**



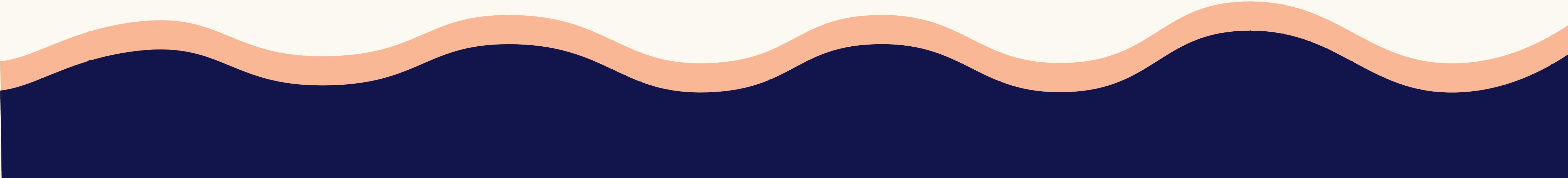
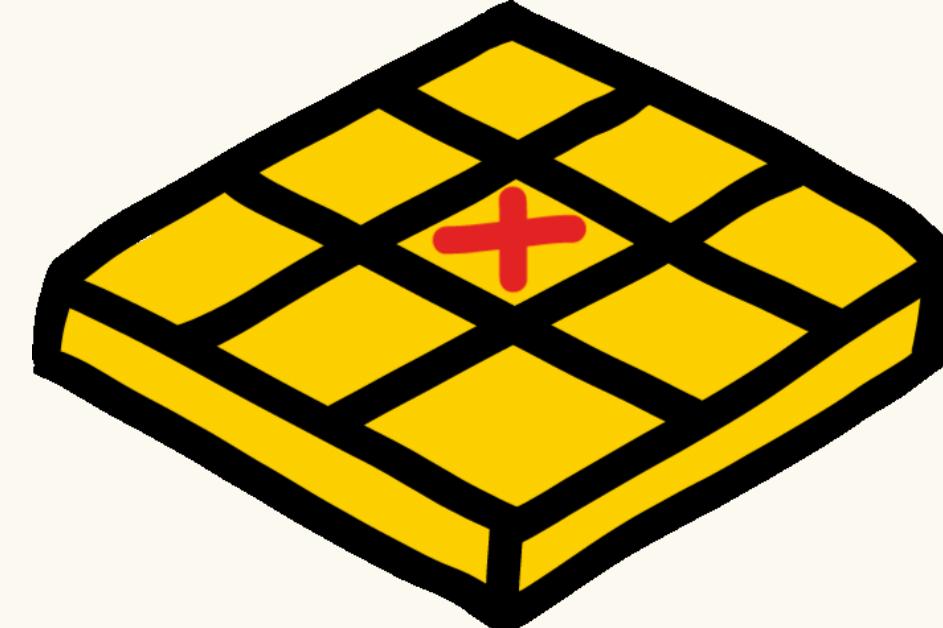
J

Main.java > ...

```
1  public class Main {  
    Run | Debug  
2      public static void main(String[] args) {  
3  
4          TicTacToe tictactoe = new TicTacToe();  
5  
6      }  
7  
8  }
```

Code ที่รันตัว game

GAME



สารตัวเรื่องการเล่น

A screenshot of the Visual Studio Code interface showing Java code for a Tic-Tac-Toe application. The code implements a graphical user interface using Java Swing. It includes imports for AWT, Event, Util, and Swing packages. The class `TicTacToe` implements `ActionListener` and contains methods for initializing a frame, setting up a title panel, and creating a button panel with 9 buttons. The title panel is styled with a dark blue background and white text.

```
File Edit Selection View Go Run Terminal Help
TicTacToe.java - TicTacToe - Visual Studio Code
EXPLORER TIC TAC TOE Main.java TicTacToe.java
import java.awt.*;
import java.awt.event.*;
import java.util.*;
import javax.swing.*;

public class TicTacToe implements ActionListener {
    Random random = new Random();
    JFrame frame = new JFrame();
    JPanel title_panel = new JPanel();
    JPanel button_panel = new JPanel();
    JLabel textfield = new JLabel();
    JButton[] buttons = new JButton[9];
    boolean player1_turn;
}

TicTacToe() {
    frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    frame.setSize(Width:800, height:800);
    frame.getContentPane().setBackground(new Color(F:50, g:50, b:50));
    frame.setLayout(new BorderLayout());
    frame.setVisible(b:true);

    textfield.setBackground(new Color(F:25, g:25, b:25));
    textfield.setForeground(new Color(F:255, g:255, b:0));
    textfield.setFont(new Font(name:"Ink Free", Font.BOLD, size:75));
    textfield.setHorizontalAlignment(JLabel.CENTER);
    textfield.setText(text:"Tic-Tac-Toe");
    textfield.setOpaque(isOpaque:true);
}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\manan\Desktop\TicTacToe>> & 'C:\Program Files\Eclipse Adoptium\jdk-17.0.6.10-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\manan\AppData\Roaming\Code\User\workspaceStorage\773326e3a2210db287da6e344ccae4c5\redhat.java\jdt_ws\TicTacToe_828890w6\b\in' Main
PS C:\Users\manan\Desktop\TicTacToe>
+ powershell
Run Main
```

TANK YOU



<https://youtu.be/0m2l3Lj6gQA>

<https://github.com/phimonnat/TicTaeToe>