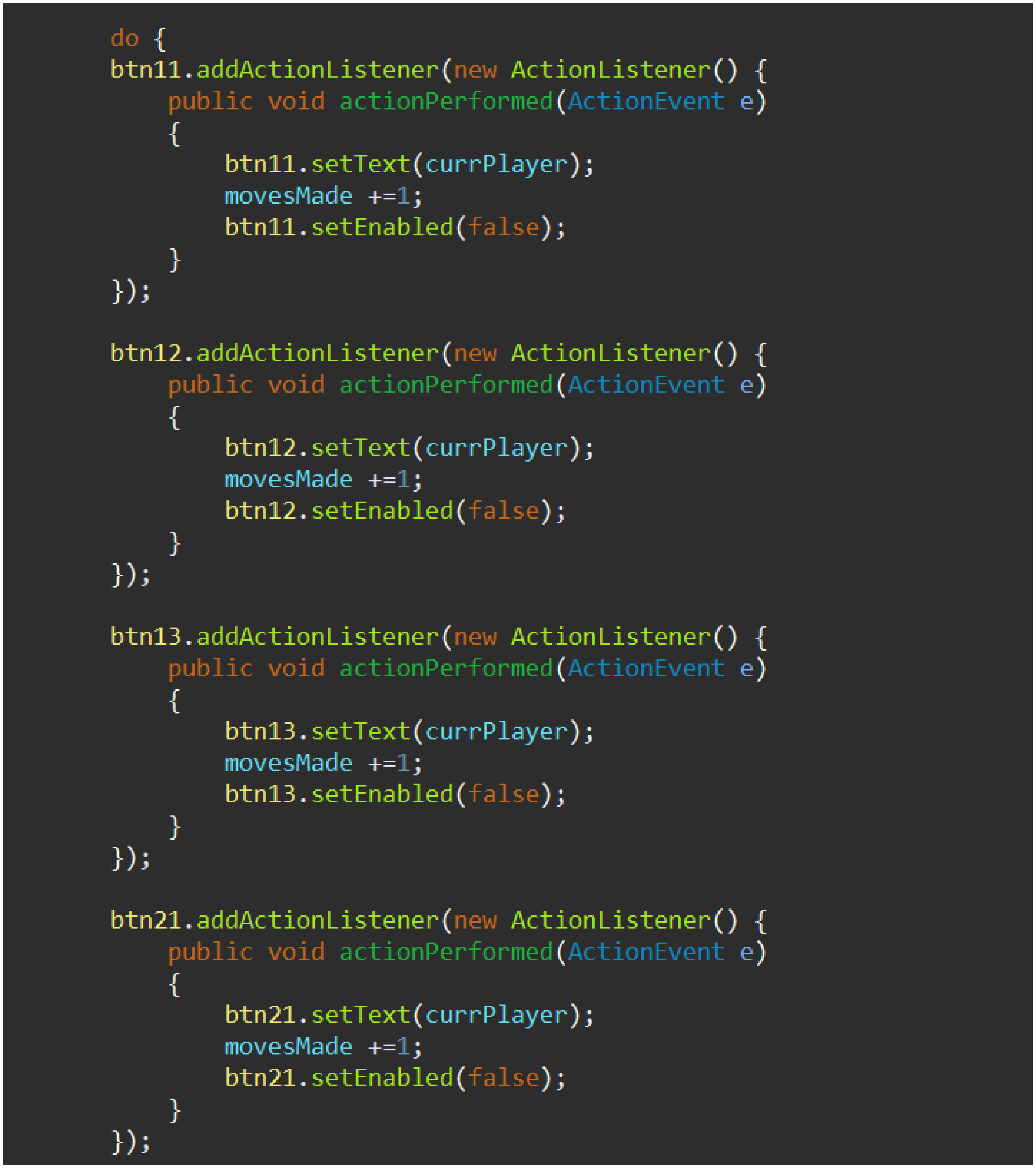
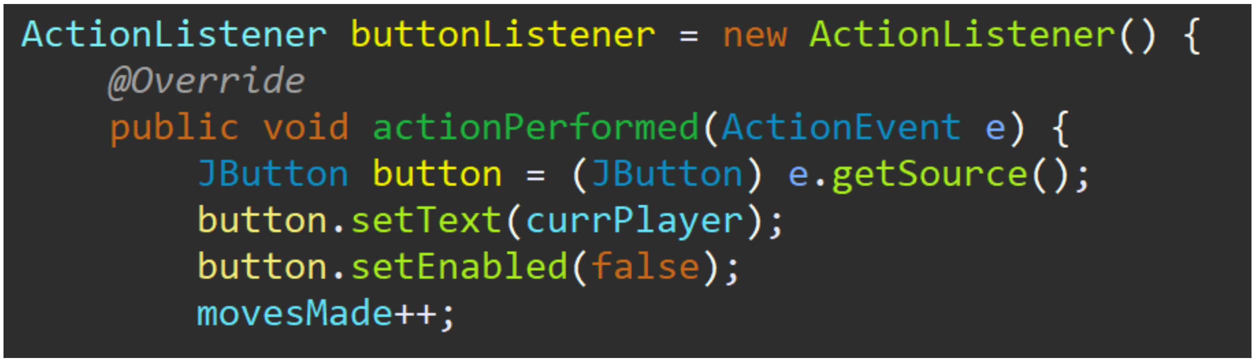
CSE 3010 Computer Science 3

<u>TicTacToe ErrorLog</u>

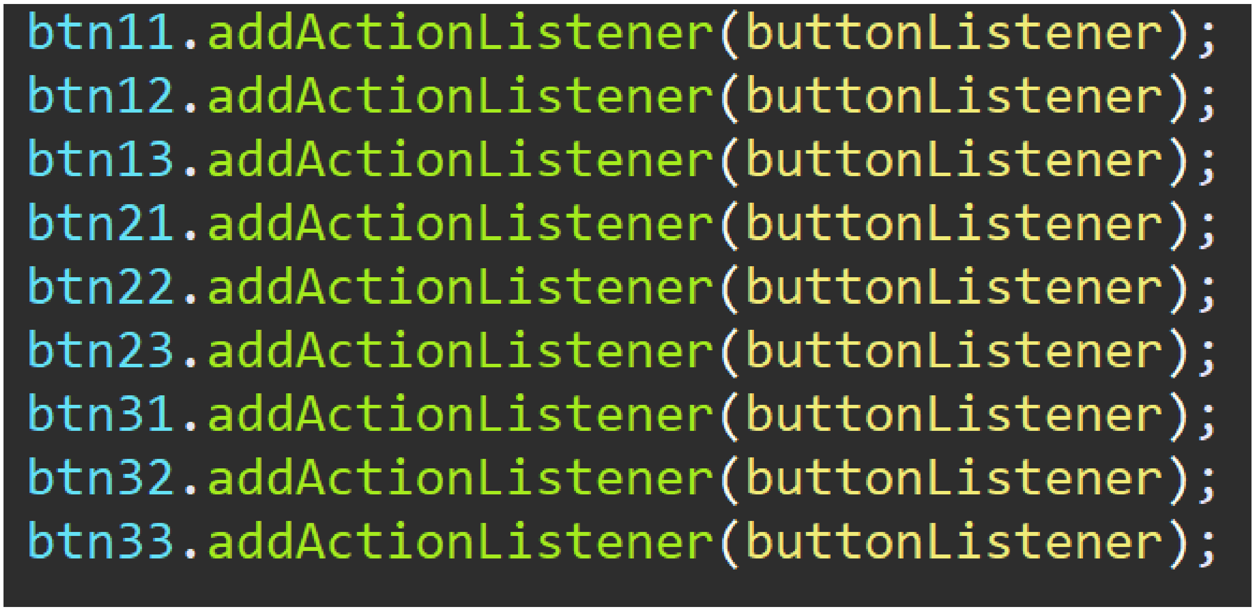


```
do {
btn11.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e)
    {
        btn11.setText(currPlayer);
        movesMade +=1;
        btn11.setEnabled(false);
    }
});

btn12.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e)
    {
        btn12.setText(currPlayer);
        movesMade +=1;
        btn12.setEnabled(false);
    }
});

btn13.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e)
    {
        btn13.setText(currPlayer);
        movesMade +=1;
        btn13.setEnabled(false);
    }
});

btn21.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e)
    {
        btn21.setText(currPlayer);
        movesMade +=1;
        btn21.setEnabled(false);
    }
});
```

Using a do-while loop as in Chapter 9 didnt work as intended because it causes the loop to keep running without allowing the GUI to display. Also using this method creates a lot of repetitive code.

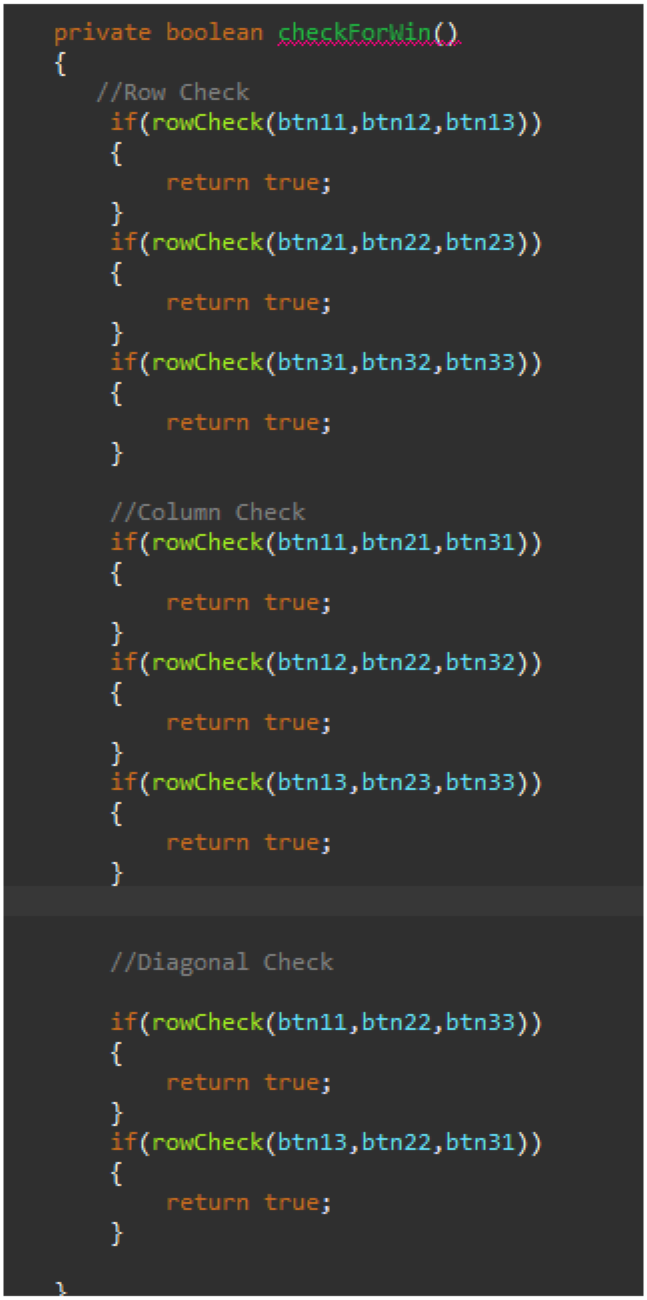


```
ActionListener buttonListener = new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        JButton button = (JButton) e.getSource();
        button.setText(currPlayer);
        button.setEnabled(false);
        movesMade++;
```



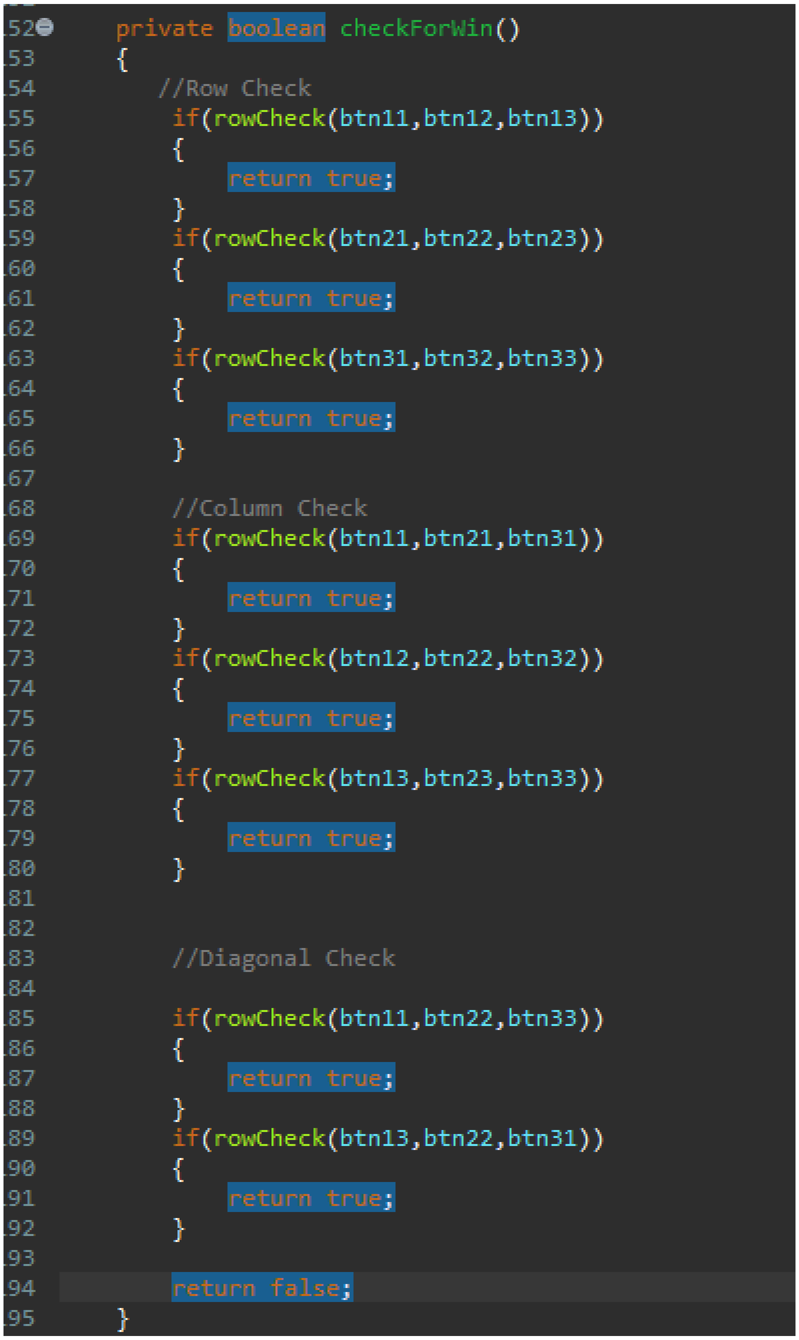
```
btn11.addActionListener(buttonListener);
btn12.addActionListener(buttonListener);
btn13.addActionListener(buttonListener);
btn21.addActionListener(buttonListener);
btn22.addActionListener(buttonListener);
btn23.addActionListener(buttonListener);
btn31.addActionListener(buttonListener);
btn32.addActionListener(buttonListener);
btn33.addActionListener(buttonListener);
```

Instead of repeating the action event code for every button, I made a single method which works for a generalised variable by getting the source off of which the action event occurred. Then I connected each of the objects(JButtons) to the buttonListener.



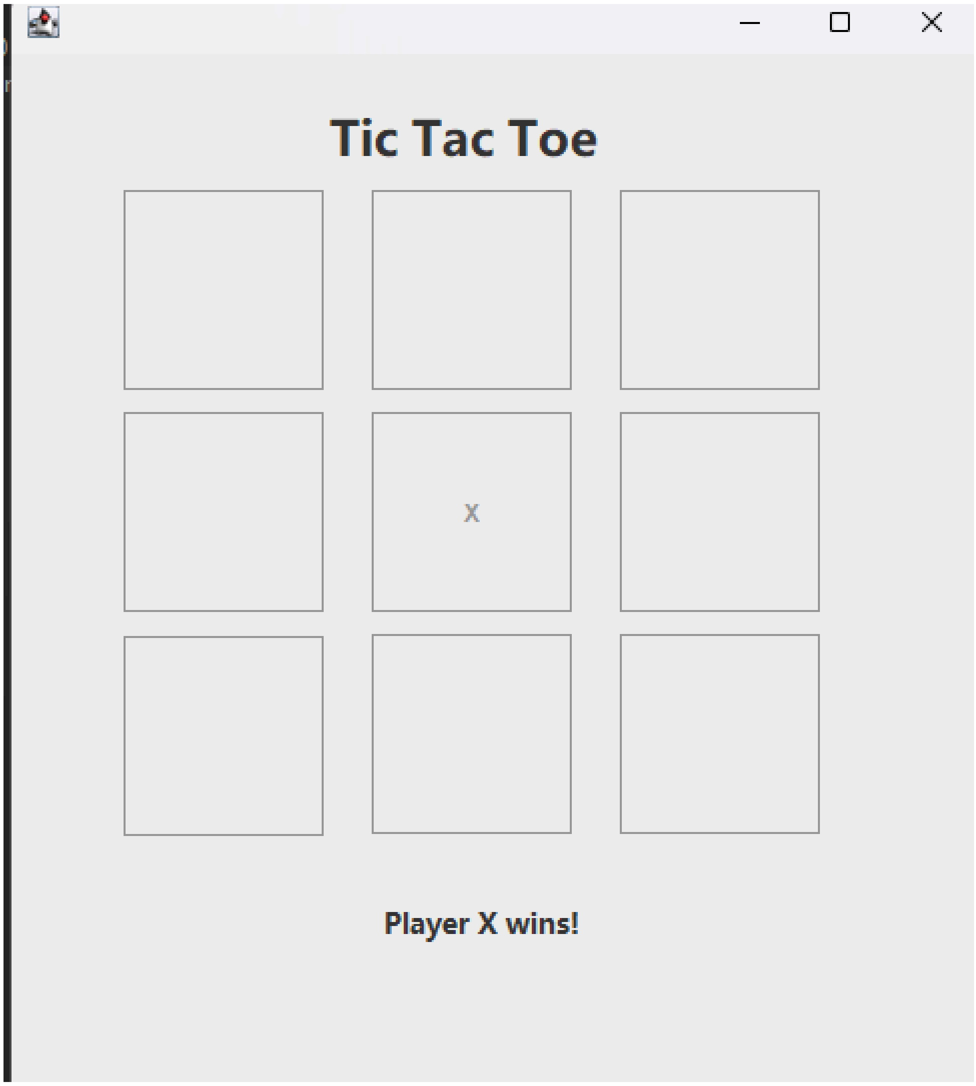
```
private boolean checkForWin()
{
   //Row Check
    if(rowCheck(btn11,btn12,btn13))
    {
        return true;
    }
    if(rowCheck(btn21,btn22,btn23))
    {
        return true;
    }
    if(rowCheck(btn31,btn32,btn33))
    {
        return true;
    }

    //Column Check
    if(rowCheck(btn11,btn21,btn31))
    {
        return true;
    }
    if(rowCheck(btn12,btn22,btn32))
    {
        return true;
    }
    if(rowCheck(btn13,btn23,btn33))
    {
        return true;
    }


    //Diagonal Check

    if(rowCheck(btn11,btn22,btn33))
    {
        return true;
    }
    if(rowCheck(btn13,btn22,btn31))
    {
        return true;
    }

}
```

Syntax error: I need to indicate what the method should return if none of the conditions are satisfied.



```
    private boolean checkForWin()
    {
       //Row Check
        if(rowCheck(btn11,btn12,btn13))
        {
            return true;
        }
        if(rowCheck(btn21,btn22,btn23))
        {
            return true;
        }
        if(rowCheck(btn31,btn32,btn33))
        {
            return true;
        }

        //Column Check
        if(rowCheck(btn11,btn21,btn31))
        {
            return true;
        }
        if(rowCheck(btn12,btn22,btn32))
        {
            return true;
        }
        if(rowCheck(btn13,btn23,btn33))
        {
            return true;
        }


        //Diagonal Check

        if(rowCheck(btn11,btn22,btn33))
        {
            return true;
        }
        if(rowCheck(btn13,btn22,btn31))
        {
            return true;
        }

        return false;
    }
```

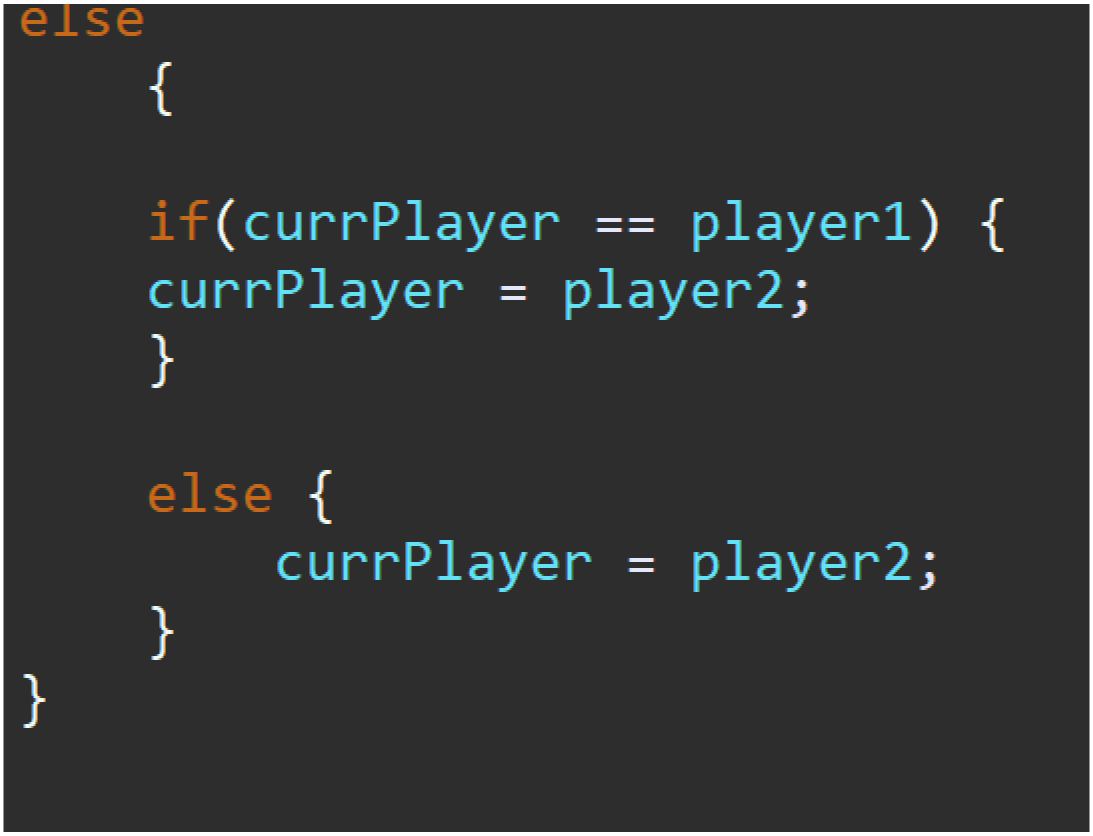
Return false statement was added.



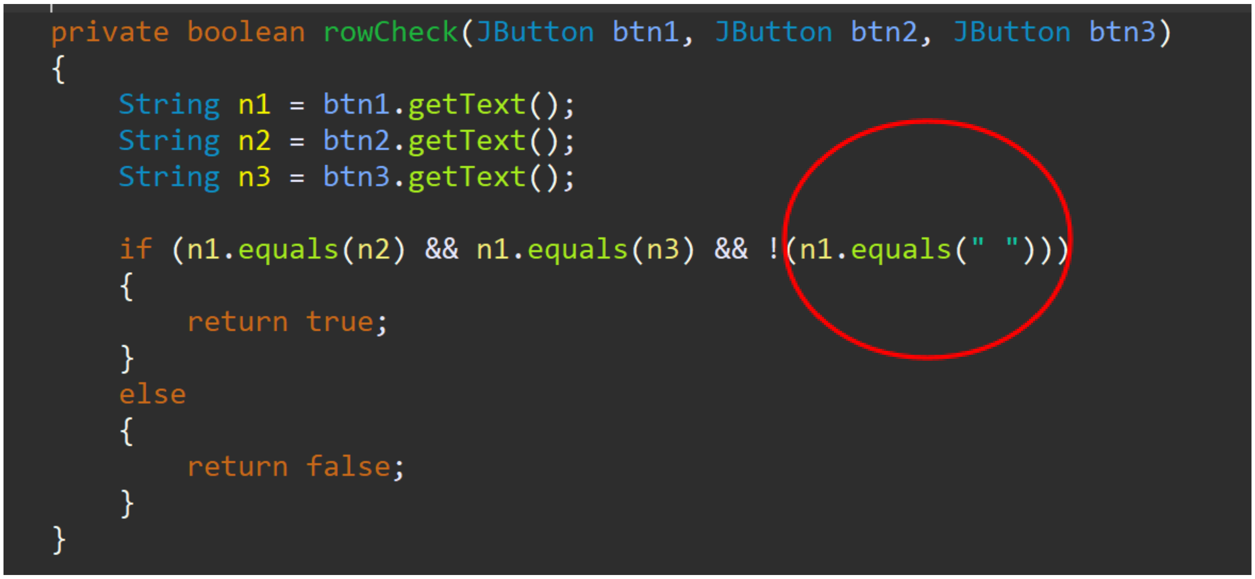
Tic Tac Toe

Player X wins!

Logic error: game ends after a single turn.

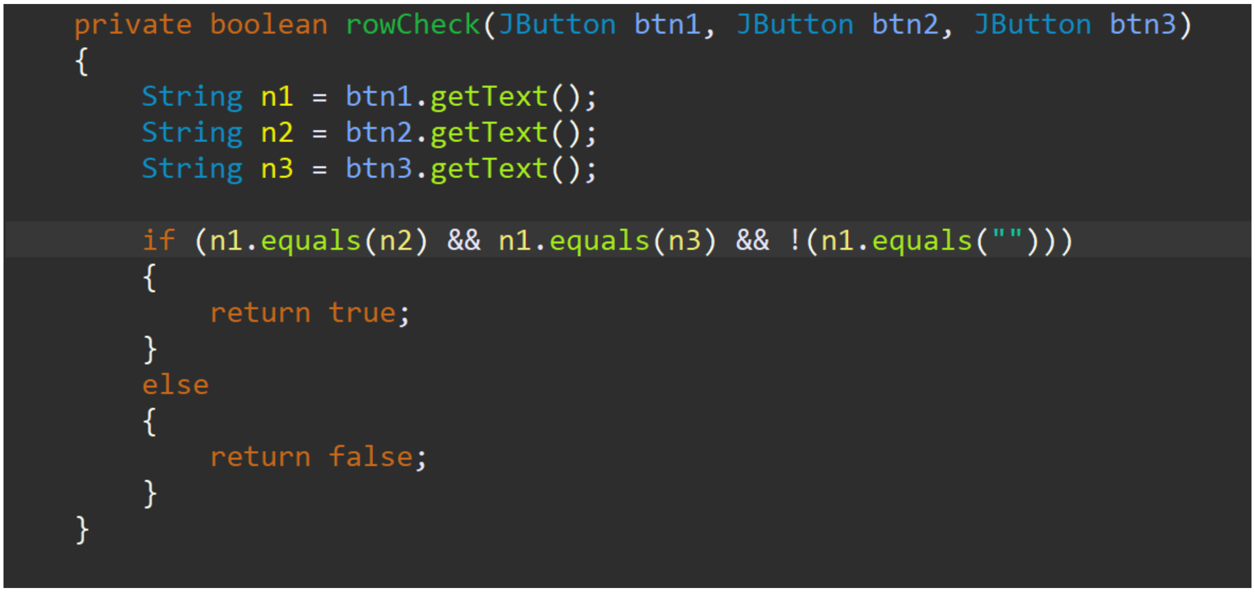


```
else
    {

    if(currPlayer == player1) {
    currPlayer = player2;
    }

    else {
        currPlayer = player2;
    }
}
```

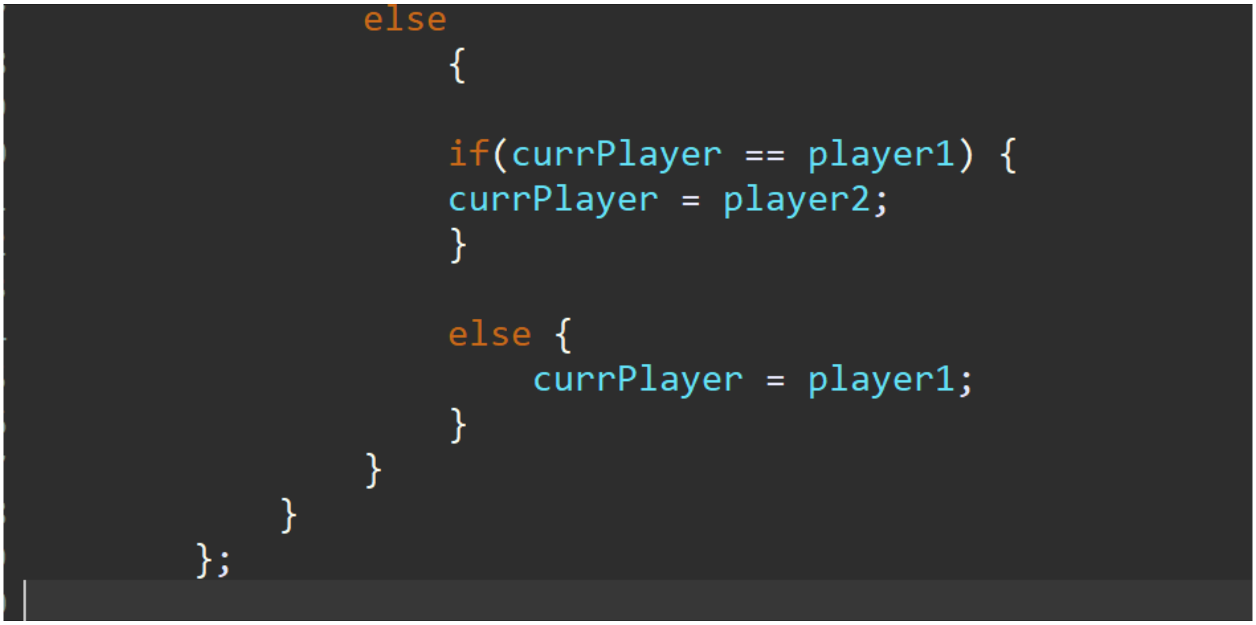


```
private boolean rowCheck(JButton btn1, JButton btn2, JButton btn3)
{
    String n1 = btn1.getText();
    String n2 = btn2.getText();
    String n3 = btn3.getText();

    if (n1.equals(n2) && n1.equals(n3) && !(n1.equals(" ")))
    {
        return true;
    }
    else
    {
        return false;
    }
}
```

The error above was caused by these 2 syntax errors.
In the if else statement i dont switch to player 1 once im player 2 and in the second option the rowCheck method only ensures the rows are not spaces when i need it to check if they are empty or not.

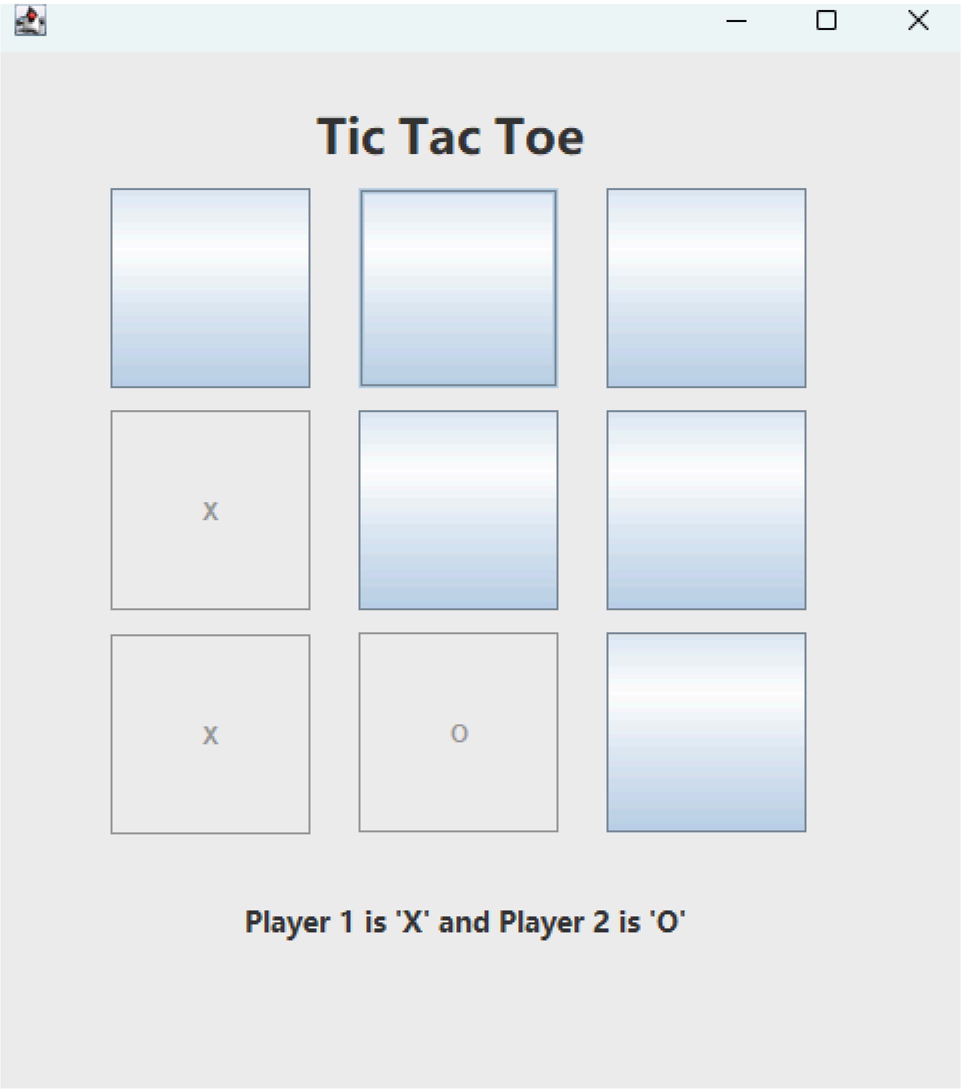


```
private boolean rowCheck(JButton btn1, JButton btn2, JButton btn3)
{
    String n1 = btn1.getText();
    String n2 = btn2.getText();
    String n3 = btn3.getText();

    if (n1.equals(n2) && n1.equals(n3) && !(n1.equals("")))
    {
        return true;
    }
    else
    {
        return false;
    }
}
```



```
        else
            {

            if(currPlayer == player1) {
            currPlayer = player2;
            }

            else {
                currPlayer = player1;
            }
        }
    }
};
```

Both errors are fixed



Tic Tac Toe

X		
X	O	

Player 1 is 'X' and Player 2 is 'O'

Now the game doesnt end after a single turn.