

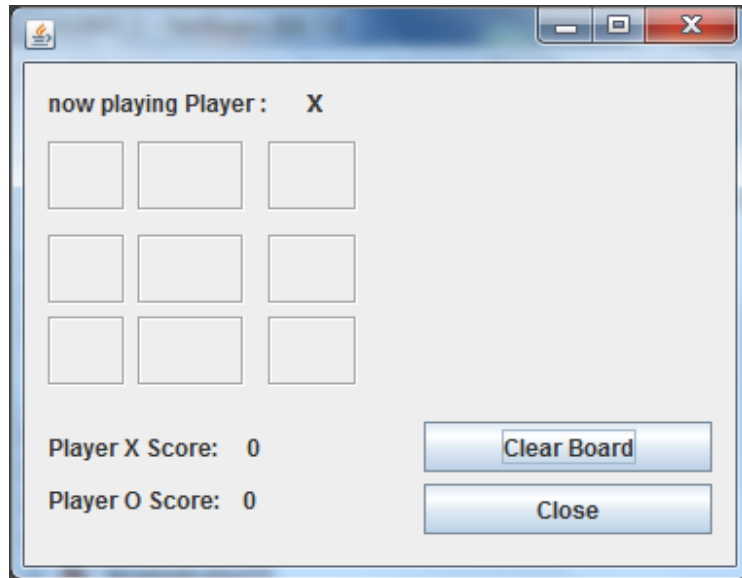


Fundamentals of Programming II Assignment 02

3X3 XO

Program 02, GUI XO

Interface



Code

Labels

```
private void _11MouseClicked(java.awt.event.MouseEvent evt) {
    if (_11.getText().equals(" ") == true) {
        _11.setText(Player.getText());
        char winner = checkWinner();
        if (winner == 'X') {
            JOptionPane.showMessageDialog(this, "Player X Wins.");
            int x = Integer.parseInt(PlayerX.getText());
            x++;
            PlayerX.setText(Integer.toString(x));
            finishGame();
        } else if (winner == 'O') {
            JOptionPane.showMessageDialog(this, "Player O Wins.");
            int O = Integer.parseInt(PlayerO.getText());
            O++;
            PlayerO.setText(Integer.toString(O));
            finishGame();
        }
        if (Player.getText().equals("X")) {
            Player.setText("O");
        } else if (Player.getText().equals("O")) {
            Player.setText("X");
        }
    }
}
```

Check winner method

```
public char checkWinner() {
    char ch = '0';
    int count = 0;
    //check row 1
    count = 0;
    ch = _11.getText().charAt(0);
    count++;
    if (ch == _12.getText().charAt(0)) {
        count++;
    }
    if (ch == _13.getText().charAt(0)) {
        count++;
    }
    if (count == 3) {
        return ch;
    }
    //check row 2
    count = 0;
    ch = _21.getText().charAt(0);
    count++;
    if (ch == _22.getText().charAt(0)) {
        count++;
    }
    if (ch == _23.getText().charAt(0)) {
        count++;
    }
    if (count == 3) {
        return ch;
    }
    // check row 3
    count = 0;
    ch = _31.getText().charAt(0);
    count++;
    if (ch == _32.getText().charAt(0)) {
        count++;
    }
    if (ch == _33.getText().charAt(0)) {
        count++;
    }
    if (count == 3) {
        return ch;
    }
}
```

```
    }
    // check column 1
    count = 0;
    ch = _11.getText().charAt(0);
    count++;
    if (ch == _21.getText().charAt(0)) {
        count++;
    }
    if (ch == _31.getText().charAt(0)) {
        count++;
    }
    if (count == 3) {
        return ch;
    }
    // check column 2
    count = 0;
    ch = _12.getText().charAt(0);
    count++;
    if (ch == _22.getText().charAt(0)) {
        count++;
    }
    if (ch == _32.getText().charAt(0)) {
        count++;
    }
    if (count == 3) {
        return ch;
    }
    // check column 3
    count = 0;
    ch = _13.getText().charAt(0);
    count++;
    if (ch == _23.getText().charAt(0)) {
        count++;
    }
    if (ch == _33.getText().charAt(0)) {
        count++;
    }
    if (count == 3) {
        return ch;
    }
}
```



```
// check diagonal 1
count = 0;
ch = _11.getText().charAt(0);
count++;
if (ch == _22.getText().charAt(0)) {
    count++;
}
if (ch == _33.getText().charAt(0)) {
    count++;
}
if (count == 3) {
    return ch;
}

// check diagonal 2
count = 0;
ch = _13.getText().charAt(0);
count++;
if (ch == _22.getText().charAt(0)) {
    count++;
}
if (ch == _31.getText().charAt(0)) {
    count++;
}
if (count == 3) {
    return ch;
}

if (count == 3) {
    return ch;
} else {
    return '0';
}
```

Exit Button

```
private void
jButton2ActionPerformed(java.awt.eve
nt.ActionEvent evt) {
    System.exit(1);
}
```

Finish game

```
public void finishGame() {
    if (_11.getText().equals(" ")) {
        _11.setText("-");
    }
    if (_12.getText().equals(" ")) {
        _12.setText("-");
    }
    if (_13.getText().equals(" ")) {
        _13.setText("-");
    }
    if (_21.getText().equals(" ")) {
        _21.setText("-");
    }
    if (_22.getText().equals(" ")) {
        _22.setText("-");
    }
    if (_23.getText().equals(" ")) {
        _23.setText("-");
    }
    if (_31.getText().equals(" ")) {
        _31.setText("-");
    }
    if (_32.getText().equals(" ")) {
        _32.setText("-");
    }
    if (_33.getText().equals(" ")) {
        _33.setText("-");
    }
}
```

Clear board

```
private void
jButton1ActionPerformed(java.awt.eve
nt.ActionEvent evt) {
    _11.setText(" ");
    _12.setText(" ");
    _13.setText(" ");
    _21.setText(" ");
    _22.setText(" ");
    _23.setText(" ");
    _31.setText(" ");
    _32.setText(" ");
    _33.setText(" ");
}
```