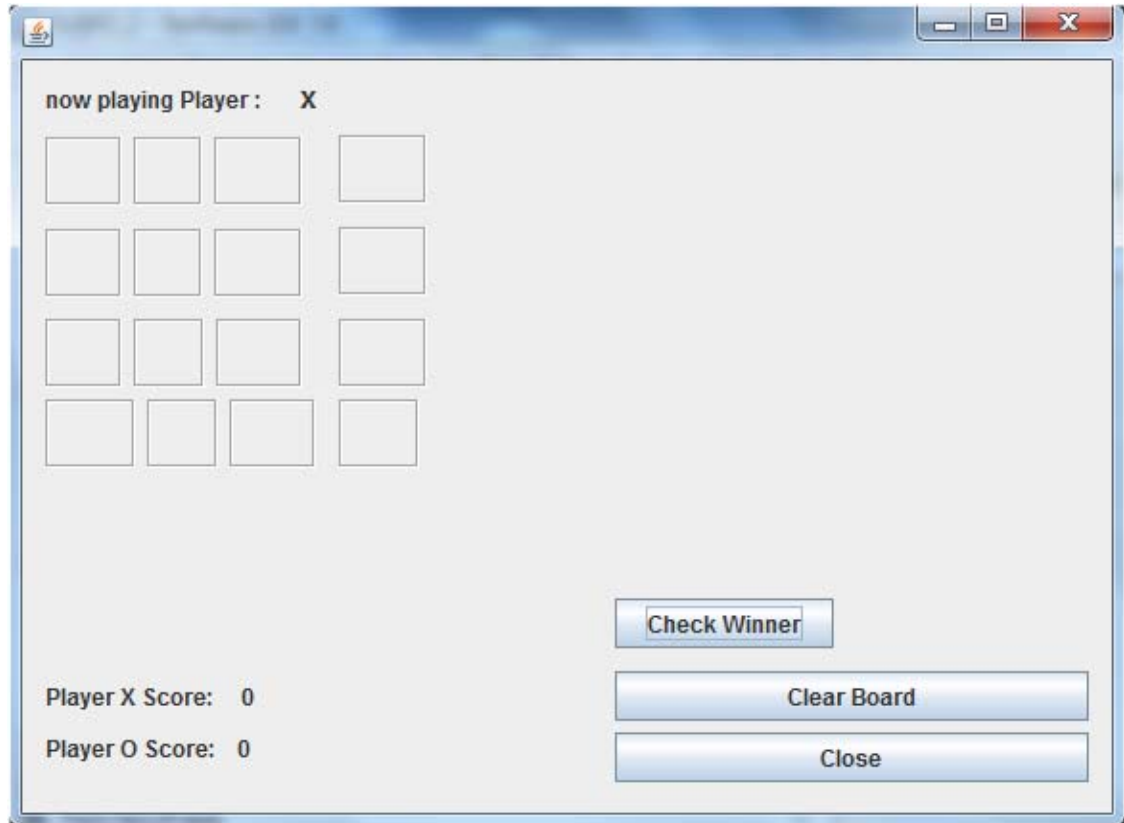


Fundamentals of Programming II Assignment 02

4X4 XO

4X4 XO game

Build 4x4 XO board.



```
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");
}
}
}
```

```
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 (ch == _14.getText().charAt(0)) {
        count++;
    }
    if (count == 4) {
        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 (ch == _24.getText().charAt(0)) {
        count++;
    }
    if (count == 4) {
        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 (ch == _34.getText().charAt(0)) {
        count++;
    }
    if (count == 4) {
        return ch;
    }
// check row 4
    count = 0;
    ch = _41.getText().charAt(0);
    count++;
    if (ch == _42.getText().charAt(0)) {
        count++;
    }
    if (ch == _43.getText().charAt(0)) {
        count++;
    }
    if (ch == _44.getText().charAt(0)) {
        count++;
    }
    if (count == 4) {
        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 (ch == _41.getText().charAt(0)) {
    count++;
}
if (count == 4) {
    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 (ch == _42.getText().charAt(0)) {
    count++;
}
if (count == 4) {
    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 (ch == _43.getText().charAt(0)) {
    count++;
}
```



```
    }
    if (count == 4) {
        return ch;
    }
    // check column 4
    count = 0;
    ch = _14.getText().charAt(0);
    count++;
    if (ch == _24.getText().charAt(0)) {
        count++;
    }
    if (ch == _34.getText().charAt(0)) {
        count++;
    }
    if (ch == _44.getText().charAt(0)) {
        count++;
    }
    if (count == 4) {
        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 (ch == _44.getText().charAt(0)) {
        count++;
    }
    if (count == 4) {
        return ch;
    }
    // check diagonal 2
    count = 0;
    ch = _14.getText().charAt(0);
    count++;
    if (ch == _23.getText().charAt(0)) {
```



```
        count++;
    }
    if (ch == _32.getText().charAt(0)) {
        count++;
    }
    if (ch == _41.getText().charAt(0)) {
        count++;
    }
    if (count == 4) {
        return ch;
    }

    if (count == 4) {
        return ch;
    } else {
        return '0';
    }
}
```

```
public void finishGame() {
    if (_11.getText().equals(" ")) {
        _11.setText("-");
    }
    if (_12.getText().equals(" ")) {
        _12.setText("-");
    }
    if (_13.getText().equals(" ")) {
        _13.setText("-");
    }
    if (_14.getText().equals(" ")) {
        _13.setText("-");
    }
    if (_21.getText().equals(" ")) {
        _21.setText("-");
    }
    if (_22.getText().equals(" ")) {
        _22.setText("-");
    }
    if (_23.getText().equals(" ")) {
        _23.setText("-");
    }
}
```



```
if (_24.getText().equals(" ")) {
    _23.setText("-");
}
if (_31.getText().equals(" ")) {
    _31.setText("-");
}
if (_32.getText().equals(" ")) {
    _32.setText("-");
}
if (_33.getText().equals(" ")) {
    _33.setText("-");
}
if (_34.getText().equals(" ")) {
    _34.setText("-");
}
if (_41.getText().equals(" ")) {
    _41.setText("-");
}
if (_42.getText().equals(" ")) {
    _42.setText("-");
}
if (_43.getText().equals(" ")) {
    _43.setText("-");
}
if (_44.getText().equals(" ")) {
    _44.setText("-");
}
}
```

