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TY-CS-D     BATCH 2

ROLL NO: 32

Assignment 1-A: Tic tac toe game with Non-AI approach

**CODE -**

import javax.swing.\*;  
import java.awt.event.ActionEvent;  
import java.awt.event.ActionListener;  
import java.awt.\*;  
  
import static java.awt.Color.\*;  
  
public class TicTacToe {  
 static int *count* = 0;  
 static boolean *winner* = false;  
  
 static String checkPlayer(JButton b){  
 String str = b.getText();  
 return str;  
 }  
  
 static void checkWinner(JFrame f){  
 Color winColor = *green*;  
 Color tieColor = *red*;  
  
 JButton b1 = (JButton) f.getContentPane().getComponent(0);  
 JButton b2 = (JButton) f.getContentPane().getComponent(1);  
 JButton b3 = (JButton) f.getContentPane().getComponent(2);  
 JButton b4 = (JButton) f.getContentPane().getComponent(3);  
 JButton b5 = (JButton) f.getContentPane().getComponent(4);  
 JButton b6 = (JButton) f.getContentPane().getComponent(5);  
 JButton b7 = (JButton) f.getContentPane().getComponent(6);  
 JButton b8 = (JButton) f.getContentPane().getComponent(7);  
 JButton b9 = (JButton) f.getContentPane().getComponent(8);  
 JLabel l1 = (JLabel) f.getContentPane().getComponent(9);  
  
 if((b1.getText()=="X" && b4.getText()=="X" && b7.getText()=="X") || (b1.getText()=="O" && b4.getText()=="O" && b7.getText()=="O")){  
 b1.setBackground(winColor);  
 b4.setBackground(winColor);  
 b7.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b1)+ " IS THE WINNER!!");  
 }  
  
 else if((b2.getText()=="X" && b5.getText()=="X" && b8.getText()=="X") || (b2.getText()=="O" && b5.getText()=="O" && b8.getText()=="O")){  
 b2.setBackground(winColor);  
 b5.setBackground(winColor);  
 b8.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b2)+ " IS THE WINNER!!");  
 }  
  
 else if((b3.getText()=="X" && b6.getText()=="X" && b9.getText()=="X") || (b3.getText()=="O" && b6.getText()=="O" && b9.getText()=="O")){  
 b3.setBackground(winColor);  
 b6.setBackground(winColor);  
 b9.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b3)+ " IS THE WINNER!!");  
 }  
  
 else if ((b1.getText()=="X" && b2.getText()=="X" && b3.getText()=="X") || (b1.getText()=="O" && b2.getText()=="O" && b3.getText()=="O")) {  
 b1.setBackground(winColor);  
 b2.setBackground(winColor);  
 b3.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b1)+ " IS THE WINNER!!");  
 }  
  
 else if ((b4.getText()=="X" && b5.getText()=="X" && b6.getText()=="X") || (b4.getText()=="O" && b5.getText()=="O" && b6.getText()=="O")) {  
 b4.setBackground(winColor);  
 b5.setBackground(winColor);  
 b6.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b4)+ " IS THE WINNER!!");  
 }  
 else if ((b7.getText()=="X" && b8.getText()=="X" && b9.getText()=="X") || (b7.getText()=="O" && b8.getText()=="O" && b9.getText()=="O")) {  
 b7.setBackground(winColor);  
 b8.setBackground(winColor);  
 b9.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b7)+ " IS THE WINNER!!");  
 }  
  
 else if ((b1.getText()=="X" && b5.getText()=="X" && b9.getText()=="X") || (b1.getText()=="O" && b5.getText()=="O" && b9.getText()=="O")) {  
 b1.setBackground(winColor);  
 b5.setBackground(winColor);  
 b9.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b1)+ " IS THE WINNER!!");  
 }  
  
 else if ((b3.getText()=="X" && b5.getText()=="X" && b7.getText()=="X") || (b3.getText()=="O" && b5.getText()=="O" && b7.getText()=="O")) {  
 b3.setBackground(winColor);  
 b5.setBackground(winColor);  
 b7.setBackground(winColor);  
 *winner* = true;  
 l1.setText("PLAYER "+ *checkPlayer*(b3)+ " IS THE WINNER!!");  
 }  
 else if (*count* == 9 && *winner* == false) {  
 b1.setBackground(tieColor);  
 b2.setBackground(tieColor);  
 b3.setBackground(tieColor);  
 b4.setBackground(tieColor);  
 b5.setBackground(tieColor);  
 b6.setBackground(tieColor);  
 b7.setBackground(tieColor);  
 b8.setBackground(tieColor);  
 b9.setBackground(tieColor);  
 l1.setText("It's a TIE Match!!");  
 }  
 }  
  
 public static void main(String[] args) {  
 Color c = new Color(146, 146, 243);  
 Color c1 = new Color(234, 226, 177);  
 JFrame frame = new JFrame();  
  
  
 JButton b1 = new JButton();  
 b1.setBounds(10,10,80,80);  
 frame.add(b1);  
  
 JButton b2 = new JButton();  
 b2.setBounds(120,10,80,80);  
 frame.add(b2);  
  
 JButton b3 = new JButton();  
 b3.setBounds(230,10,80,80);  
 frame.add(b3);  
  
 JButton b4 = new JButton();  
 b4.setBounds(10,120,80,80);  
 frame.add(b4);  
  
 JButton b5 = new JButton();  
 b5.setBounds(120,120,80,80);  
 frame.add(b5);  
  
 JButton b6 = new JButton();  
 b6.setBounds(230,120,80,80);  
 frame.add(b6);  
  
 JButton b7 = new JButton();  
 b7.setBounds(10,230,80,80);  
 frame.add(b7);  
  
 JButton b8 = new JButton();  
 b8.setBounds(120,230,80,80);  
 frame.add(b8);  
  
 JButton b9 = new JButton();  
 b9.setBounds(230,230,80,80);  
 frame.add(b9);  
  
 JLabel labels = new JLabel("Player X's Turn");  
 labels.setBounds(10,320,300,60);  
 frame.add(labels);  
  
 frame.getContentPane().setBackground(c1);  
 frame.setSize(340,400);  
 frame.setLayout(null);  
 frame.setDefaultCloseOperation(WindowConstants.*EXIT\_ON\_CLOSE*);  
 frame.setVisible(true);  
  
  
 b1.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b1.setText("O");  
 b1.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b1.setText("X");  
 b1.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b2.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b2.setText("O");  
 b2.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b2.setText("X");  
 b2.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b3.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b3.setText("O");  
 b3.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b3.setText("X");  
 b3.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b4.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b4.setText("O");  
 b4.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b4.setText("X");  
 b4.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b5.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b5.setText("O");  
 b5.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b5.setText("X");  
 b5.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b6.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b6.setText("O");  
 b6.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b6.setText("X");  
 b6.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b7.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b7.setText("O");  
 b7.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b7.setText("X");  
 b7.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b8.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b8.setText("O");  
 b8.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b8.setText("X");  
 b8.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
  
 b9.addActionListener(new ActionListener() {  
 @Override  
 public void actionPerformed(ActionEvent e) {  
 if(!*winner* && *count*<9){*count* += 1;  
 if(*count*%2==0 && *count*<=9){  
 b9.setText("O");  
 b9.setEnabled(false);  
 labels.setText("Player X's Turn");  
 }  
 else{  
 b9.setText("X");  
 b9.setEnabled(false);  
 labels.setText("Player O's Turn");  
 }  
 *checkWinner*(frame);}  
 }  
 });  
 }  
}