

Programación Avanzada, curso 2011  
Juan Manuel Fernández  
Ejemplo muy simple del uso de Tablas

```
import javax.swing.SwingUtilities;
import java.awt.BorderLayout;
import javax.swing.JPanel;
import javax.swing.JFrame;
import java.awt.Dimension;
import javax.swing.JTable;
import java.awt.Rectangle;
import javax.swing.JButton;

/*
 * Ejemplo de uso de tablas
 * Juan Manuel Fernández Peña, curso 2011
 * Este programa muestra una tabla sobre la cual se mueve un símbolo
 * de acuerdo con los botones que se elijan.
 * Usa una clase interna (Matriz) para representar los datos del problema.
 * Se hizo interna para tener acceso directo al JTable.
 * De otro modo debe pasarse un parámetro para que pueda actualizarla new Matriz(this, 10,10,5,5)
 *
 * El ejemplo enfatiza que la interfaz es una representación gráfica (en este caso con @)
 * pero los datos están en una clase diferente (Matriz) en este caso como valores booleanos
 * (podrían ser de cualquier tipo, incluso figuras)
 */
public class IUTabla extends JFrame {

    private static final long serialVersionUID = 1L;
    private JPanel jPanel = null;
    private JTable jTable = null;
    private JButton jButton = null;
    private JButton jButton1 = null;
```

```

private JButton jButton2 = null;
private JButton jButton3 = null;
private JButton jButton4 = null;
private Matriz miTabla;

/*
 * Clase interior
 */
public class Matriz{
    boolean [][]laMatriz;
    int xmax, ymax, xact, yact;

    public Matriz(int xm, int ym, int x0, int y0){
        laMatriz = new boolean[xm][ym];
        xmax = xm; ymax = ym;
        xact = x0; yact = y0;
        for (int ix=0;ix<xm;ix++){
            for (int jx=0;jx<ym;jx++){
                laMatriz[ix][jx]=false;
                borra(ix,jx);
            }
            laMatriz[x0][y0]=true;
            pinta(xact, yact);
        }

        public void norte(){
            if (xact>0){
                borra(xact,yact);
                xact--;
                pinta(xact,yact);
            }
        }

        public void sur(){

```

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        if (xact<xmax-1){
            borra(xact,yact);
            xact++;
            pinta(xact,yact);
        }
    }
    public void este(){
        if (yact<ymax-1){
            borra(xact,yact);
            yact++;
            pinta(xact,yact);
        }
    }
    public void oeste(){
        if (yact>0){
            borra(xact,yact);
            yact--;
            pinta(xact,yact);
        }
    }
}
/*
 * Termina clase interior
 */

private JTable getJTable() {
    if (jTable == null) {
        jTable = new JTable(10,10);
        jTable.setBounds(new Rectangle(17, 15, 281, 248));
    }
    return jTable;
}

```

```

/**
 * This method initializes jButton
 *
 * @return javax.swing.JButton
 */
private JButton getJButton() {
    if (jButton == null) {
        jButton = new JButton();
        jButton.setBounds(new Rectangle(418, 59, 43, 33));
        jButton.setText("N");
        jButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent e) {
                System.out.println("N actionPerformed()");
                miTabla.norte();
            }
        });
    }
    return jButton;
}

```

```

/**
 * This method initializes jButton1
 *
 * @return javax.swing.JButton
 */
private JButton getJButton1() {
    if (jButton1 == null) {
        jButton1 = new JButton();
        jButton1.setBounds(new Rectangle(418, 158, 44, 36));
        jButton1.setText("S");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent e) {
                System.out.println("S actionPerformed()");
            }
        });
    }
    return jButton1;
}

```

```

        miTabla.sur();
    }
    });
}
return jButton1;
}

/**
 * This method initializes jButton2
 *
 * @return javax.swing.JButton
 */
private JButton getJButton2() {
    if (jButton2 == null) {
        jButton2 = new JButton();
        jButton2.setBounds(new Rectangle(481, 106, 44, 37));
        jButton2.setText("E");
        jButton2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent e) {
                System.out.println(" E actionPerformed()");
                miTabla.este();
            }
        });
    }
    return jButton2;
}

/**
 * This method initializes jButton3
 *
 * @return javax.swing.JButton
 */
private JButton getJButton3() {

```

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        if (jButton3 == null) {
            jButton3 = new JButton();
            jButton3.setBounds(new Rectangle(356, 105, 46, 42));
            jButton3.setText("O");
            jButton3.addActionListener(new java.awt.event.ActionListener() {
                public void actionPerformed(java.awt.event.ActionEvent e) {
                    System.out.println("O actionPerformed()");
                    miTabla.oeste();
                }
            });
        }
        return jButton3;
    }

    /**
     * This method initializes jButton4
     *
     * @return javax.swing.JButton
     */
    private JButton getJButton4() {
        if (jButton4 == null) {
            jButton4 = new JButton();
            jButton4.setBounds(new Rectangle(386, 225, 114, 36));
            jButton4.setText("INICIO");
            jButton4.addActionListener(new java.awt.event.ActionListener() {
                public void actionPerformed(java.awt.event.ActionEvent e) {
                    System.out.println("Inicia actionPerformed()"); // TODO Auto-generated Event stub
                    miTabla = new Matriz(10,10,5,5);
                }
            });
        }
        return jButton4;
    }

```

```

}

/**
 * @param args
 */
public static void main(String[] args) {
    // TODO Auto-generated method stub
    SwingUtilities.invokeLater(new Runnable() {
        public void run() {
            IUTabla thisClass = new IUTabla();
            thisClass.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            thisClass.setVisible(true);
        }
    });
}

/**
 * This is the default constructor
 */
public IUTabla() {
    super();
    initialize();
}

/**
 * This method initializes this
 *
 * @return void
 */
private void initialize() {
    this.setSize(551, 372);
    this.setContentPane(getJContentPane());
    this.setTitle("Ejemplo de uso de Tablas");
}

```

```

}

/**
 * This method initializes jContentPane
 *
 * @return javax.swing.JPanel
 */
private JPanel getJContentPane() {
    if (jContentPane == null) {
        jContentPane = new JPanel();
        jContentPane.setLayout(null);
        jContentPane.add(getJTable(), null);
        jContentPane.add(getJButton(), null);
        jContentPane.add(getJButton1(), null);
        jContentPane.add(getJButton2(), null);
        jContentPane.add(getJButton3(), null);
        jContentPane.add(getJButton4(), null);
    }
    return jContentPane;
}

public void borra(int xx, int yy){
    jTable.setValueAt(" ", xx, yy);
}

public void pinta(int xx, int yy){
    jTable.setValueAt("@", xx, yy);
}
} // @jve:decl-index=0:visual-constraint="10,10"

```