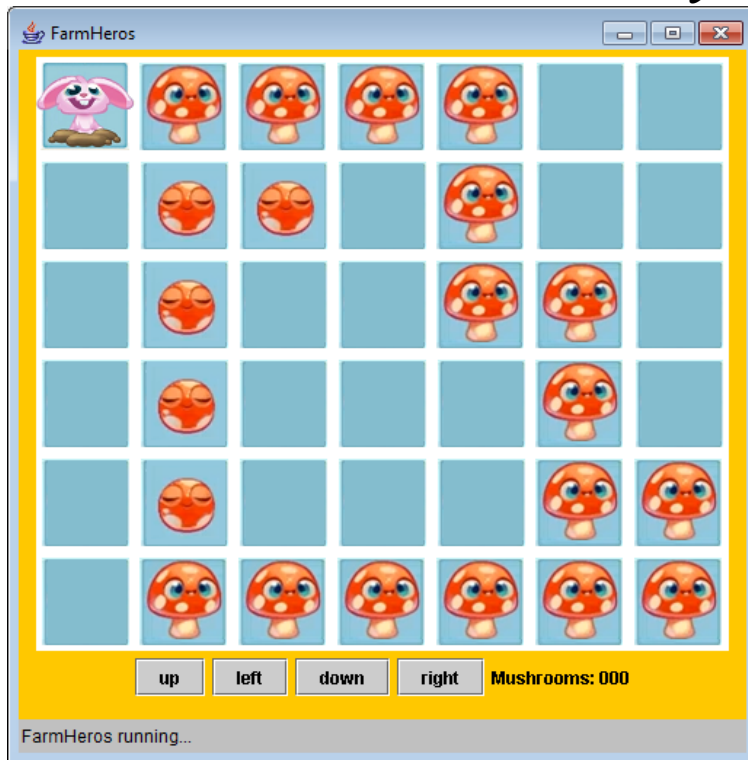


Bunny Game



The rules follow:

- The bunny moves around the screen.
- When the bunny passes over a baby mushroom (1), the baby mushroom turns into a big mushroom (2).
- When the bunny passes over a big mushroom (2), the bunny eats it and gains a point.
- When the bunny has eaten all of the mushrooms (including the fully grown babies), they win.
- In this game, they would need to eat 21 mushrooms.

This is the starter code.

1. You need to fill in the array to make the pictures.
2. Up is given. You need to fill in the other three directions.

```
import javax.swing.*; import java.applet.*; import java.awt.event.*; import java.awt.*;
public class BunnyGame extends Applet implements ActionListener
{
    int field[] [] = ?
    int row = 6;
    int col = 7;
    int x = 0;
    int y = 0;
    int mush = 0;
    JLabel mushrooms;
    JLabel pics[] = new JLabel [row * col];
    public void init ()
    {
        resize (500, 460);
        setBackground (Color.orange);
        Panel grid = new Panel (new GridLayout (row, col));
        int m = 0;
        for (int i = 0 ; i < row ; i++)
        {
            for (int j = 0 ; j < col ; j++)
            {
                pics [m] = new JLabel (createImageIcon ("p" + field [i] [j] + ".png"));
                pics [m].setPreferredSize (new Dimension (68, 68));
                grid.add (pics [m]);
                m++;
            }
        }
        add (grid);
        JButton up = new JButton ("up");
        up.setActionCommand ("up");
        up.addActionListener (this);
        add (up);
    }
}
```

```

JButton left = new JButton ("left");
left.setActionCommand ("left");
left.addActionListener (this);
add (left);
JButton down = new JButton ("down");
down.setActionCommand ("down");
down.addActionListener (this);
add (down);
JButton right = new JButton ("right");
right.setActionCommand ("right");
right.addActionListener (this);
add (right);
mushrooms = new JLabel ("Mushrooms: 000");
add (mushrooms);

pics [x * col + y].setIcon (createImageIcon ("p3.png"));
}

public void actionPerformed (ActionEvent e)
{
    if (e.getActionCommand ().equals ("up"))
    {
        if (x - 1 < 0)
            showStatus ("Off the board!!");
        else
        {
            if (field [x - 1] [y] == 2)
            {
                showStatus ("OK! There is mushroom!");
                mush++;
                field [x - 1] [y] = 0;
                mushrooms.setText ("Mushrooms: " + mush);
            }
            else if (field [x - 1] [y] == 1)
            {
                showStatus ("OK! There is a baby mushroom!");
                field [x - 1] [y] = 2;
            }
            pics [x * col + y].setIcon (createImageIcon ("p" + field [x] [y] + ".png"));
            x--;
            pics [x * col + y].setIcon (createImageIcon ("p3.png"));
        }
    }
    else if (e.getActionCommand ().equals ("down"))
    {
    }
    else if (e.getActionCommand ().equals ("right"))
    {
    }
    else if (e.getActionCommand ().equals ("left"))
    {
    }
    if (mush == 21)
        showStatus ("You win!!");
}

protected static ImageIcon createImageIcon (String path)
{
    java.net.URL imgURL = BunnyGame.class.getResource (path);
    if (imgURL != null)
        return new ImageIcon (imgURL);
    else
        return null;
}
}

```