

Fishes Swimming

(and here comes the Shark!)

Repl.it Version

Main.java

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import javax.swing.border.*;
class Main {
    public static void main (String[] args)
    {
        JFrame.setDefaultLookAndFeelDecorated (true);
        JFrame frame = new JFrame ("The Shark is Coming!!");
        frame.setDefaultCloseOperation (JFrame.EXIT_ON_CLOSE);
        JComponent newContentPane = new FishSwim ();
        newContentPane.setOpaque (true);
        frame.setContentPane (newContentPane);
        frame.setSize (450, 350);
        frame.setVisible (true);
    }
}
```

FishSwim.java

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import javax.swing.border.*;
public class FishSwim extends JPanel implements ActionListener {
    //TO DO: add fishes to ocean
    int ocean[] [] = {{1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1},
        {1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1},
        {1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1},
        {1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1},
        {1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1},
        {1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1},
        {1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1},
        {1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1}};
    int row = 8;
    int col = 12;
    int x = 0;
    int y = 0;
    int munch = 0;
    JLabel eaten;
    JLabel feedback;
    JLabel pics[] = new JLabel [row * col];

    public FishSwim () {
        setBackground (new Color(80,163,213));

        //TO DO: Add JLabel for Title

        //code to build the screen
        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 ("f" + ocean [i] [j] + ".png"));
                pics [m].setPreferredSize (new Dimension (32, 32));
                pics[m].setBackground (new Color(80,163,213));
                grid.add (pics [m]);
            }
        }
    }
}
```

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    m++;
  }
}
add (grid);

//Movement buttons
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);

//set up labels for feedback
eaten = new JLabel("The shark has eaten "+munch+" fishes.");
add(eaten);
feedback= new JLabel("Click on the buttons to move.");
add(feedback);
//move shark to the start position
pics [x * col + y].setIcon (createImageIcon ("shark.png"));
}

```

```

public void actionPerformed (ActionEvent e) {

//Left direction -----
if (e.getActionCommand ().equals ("left")){
  if (y - 1 < 0)
    feedback.setText ("Off the board!!");
  else {
    if (ocean [x] [y - 1] != 1) {
      munch++;
      ocean[x][y-1]=1;
      eaten.setText("The shark has eaten "+munch+" fishes.");
    }
    feedback.setText ("OK! Moving left.");
    pics [x * col + y].setIcon (createImageIcon ("f1.png"));
    y--;
    pics [x * col + y].setIcon (createImageIcon ("shark.png"));
  }
}
//Up direction -----
else if (e.getActionCommand ().equals ("up")) {
  if (x - 1 < 0)
    feedback.setText ("Off the board!!");
  else {
    if (ocean [x - 1] [y] != 1) {
      munch++;
      ocean[x-1][y]=1;
      eaten.setText("The shark has eaten "+munch+" fishes.");
    }
    feedback.setText ("OK! Moving up.");
    pics [x * col + y].setIcon (createImageIcon ("f1.png"));
    x--;
    pics [x * col + y].setIcon (createImageIcon ("shark.png"));
  }
}
}

```

```

}
//Down direction -----
else if (e.getActionCommand ().equals ("down")) {
    if (x + 1 >= row)
        feedback.setText ("Off the board!!");
    else{
        if (ocean [x + 1] [y] != 1){
            munch++;
            ocean[x+1][y]=1;
            eaten.setText("The shark has eaten "+munch+" fishes.");
        }
        feedback.setText ("OK! Moving down.");
        pics [x * col + y].setIcon (createImageIcon ("f1.png"));
        x++;
        pics [x * col + y].setIcon (createImageIcon ("shark.png"));
    }
}
//Right direction -----
else if (e.getActionCommand ().equals ("right")) {
    if (y + 1 >= col)
        feedback.setText ("Off the board!!");
    else {
        if (ocean [x] [y + 1] != 1){
            munch++;
            ocean[x][y+1]=1;
            eaten.setText("The shark has eaten "+munch+" fishes.");
        }
        feedback.setText ("OK! Moving right.");
        pics [x * col + y].setIcon (createImageIcon ("f1.png"));
        y++;
        pics [x * col + y].setIcon (createImageIcon ("shark.png"));
    }
}

//TO DO: fix so win happens if the shark has eaten 15 fishes
// Also, instead of "alert", fix dialog so it says: you win!
if(munch>=2)
    JOptionPane.showMessageDialog (null, "alert", "alert", JOptionPane.INFORMATION_MESSAGE);
}

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

```