

Class Display10

1/2

```
import javax.swing.*;
import java.util.*;
import java.awt.*;
/**
 * Display10 is embedded in Panel10 to execute Lab10
 *
 * @author      Nathan Chen
 * @teacher     Coglianese
 * @period      2
 * @version     3-4-19
 */
public class Display10 extends JPanel
{
    //Instance Variables
    private JLabel[] bits;

    /**
     * Default constructor
     */
    public Display10(){
        setLayout(new GridLayout(1, 9));
        bits = new JLabel[8];
        for(int x = 0; x < bits.length; x++) {
            bits[x] = new JLabel("", SwingConstants.CENTER);
            bits[x].setFont(new Font("Serif", Font.BOLD, 50));
            add(bits[x]);
        }
        randomize();
    }

    /**
     * Randomizes the bits
     */
    public void randomize(){
        for(int x = 0; x < bits.length; x++) {
            bits[x].setText(""+(int)(Math.random()*2));
        }
    }

    /**
     * Swaps the left and right bits
     */
    public void reverse(){
        for(int x = 0; x < bits.length/2; x++) {
            String flip = bits[x].getText();
            String flop = bits[bits.length-x-1].getText();
            bits[x].setText(flop);
            bits[bits.length-x-1].setText(flip);
        }
    }
}
```

Class Display10 (continued)

2/2

```
}

/**
 * Shift the numbers to the left
 */
public void shift(){
    for(int x = 0; x < bits.length-1; x++) {
        bits[x].setText(bits[x+1].getText());
    }
    bits[bits.length-1].setText("0");
}

/**
 * Rotates the numbers to the left,
 * Moves left most bit to rightmost bit
 */
public void rotate(){
    boolean b = false;
    if (bits[0].getText().equals("1")){
        b=true;
    }
    for(int x = 0; x < bits.length-1; x++) {
        bits[x].setText(bits[x+1].getText());
    }
    if (b){
        bits[bits.length-1].setText("1");
    }
    else{
        bits[bits.length-1].setText("0");
    }
}
```