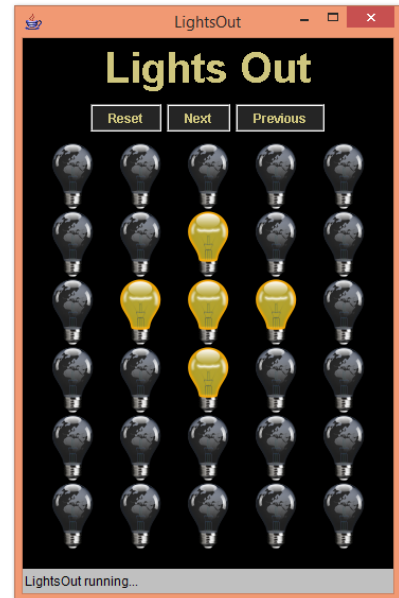


B. Lights Out Movement

When you click on the $[x][y]$ co-ordinate, it switches, as do the following pieces.

	$[x-1][y]$	
$[x][y-1]$	$[x][y]$	$[x][y+1]$
	$[x+1][y]$	



1. Add the redraw method:

```
public void redraw ()
{
    int m = 0;
    for (int i = 0 ; i < row ; i++)
    {
        for (int j = 0 ; j < col ; j++)
        {
            if (light [i] [j] == 1)
                pics [m].setIcon (createImageIcon ("on.png"));
            else if (light [i] [j] == 2)
                pics [m].setIcon (createImageIcon ("off.png"));
            m++;
        }
    }
}
```

2. Inside actionPerformed, add the highlighted code in the position indicated. This will make the button active.

```
public void actionPerformed (ActionEvent e)
{
    if (e.getActionCommand ().equals ("reset"))
    {
    }
    else if (e.getActionCommand ().equals ("next"))
    {
    }
    else if (e.getActionCommand ().equals ("previous"))
    {
    }
    else
    {
        //grid pieces
        int pos = Integer.parseInt (e.getActionCommand ());
        click (pos);
    }
}
```

3. Add the click method too.

```
public void click(int pos) {
    int x = pos / col;
    int y = pos % col;
    //middle space
    if (light[x][y] == 1)
        light[x][y] = 2;
    else
        light[x][y] = 1;
    //above
    if (x - 1 >= 0 && light[x - 1][y] == 1)
        light[x - 1][y] = 2;
    else if (x - 1 >= 0)
        light[x - 1][y] = 1;
    //below
    if (x + 1 < row && light[x + 1][y] == 1)
        light[x + 1][y] = 2;
    else if (x + 1 < row)
        light[x + 1][y] = 1;
    //TO DO: add right
    //TO DO: add left

    redraw();
}
```

4. Complete the right and left click method.

5. Run the code and show Ms. Gorski