

```

1 package Assign_4_B;
2
3 import Media.*;           // for Picture and PictureDisplay
4 import java.awt.*;        // for Color objects and methods
5 import static java.lang.Math.*; // for math constants and functions
6 import static java.awt.Color.*; // for Color constants
7
8 /** This class takes a picture and changes the day sky to a night sky.
9  *
10  * @author Sawyer Fenwick st#6005011
11  * @version 1.0 November 7 2016
12  */
13 public class Night_Sky {
14
15     // instance variables
16     private PictureDisplayer display;
17
18     /** This constructor places the picture on the display and changes the sky blue
19     pixels to dark blue,
20     * and changes random sky blue pixels to white (approximately 1 in 2000) as if
21     they were stars, using the
22     * method "Night".*/
23
24     public Night_Sky ( ) {
25
26         // local variables
27         Picture pic;
28         display = new PictureDisplayer(640, 427);
29         pic = new Picture();
30         display.placePicture(pic);
31         display.waitForUser();
32         Night(pic);
33
34         display.close();
35
36     }; // constructor
37
38     /** This method searches each pixel, and checks if it is "sky blue". If it is
39     sky blue this method replaces the
40     * color with "night blue". Approximately 1 in 2000 sky blue pixels are
41     converted to white instead of night blue.*/
42     private void Night(Picture aPic){
43
44         Pixel x;
45         double d;
46         double r;
47         Color c;
48         Color skyBlue;
49         Color nightBlue;
50         Color white;
51         //local variables
52
53         while (aPic.hasNext()){
54
55             x = aPic.next();
56             c = x.getColor();
57             r = (double) (random());
58
59             skyBlue = (new Color(8431307));
60             nightBlue = (new Color(1054800));
61             white = (new Color(16777088));
62             d = x.getDistance(skyBlue);
63
64             if ( d < 64.5){
65                 x.setColor(nightBlue);
66             }
67
68             if ( d < 64.5 & r < 0.0005){
69                 x.setColor(white);
70             }
71         }
72     }
73 }

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```
66         }
67
68     }
69
70     }; // Night
71
72     public static void main ( String[] args ) { Night_Sky s = new Night_Sky(); };
73
74 } // Night_Sky
```