**Picture Lab Activity #5 – Modifying a Picture**

1. Open Picture.java and look for the method getPixels2D. Is it there?

No

2. Open SimplePicture.java and look for the method getPixels2D. Is it there?

Yes

3. Does the following code compile?

DigitalPicture p = new DigitalPicture();

No

4. Assuming that a no-argument constructor exists for SimplePicture, would the following code compile?

DigitalPicture p = new SimplePicture();

Yes

5. Assuming that a no-argument constructor exists for Picture, does the following code compile?

DigitalPicture p = new Picture();

Yes

6. Assuming that a no-argument constructor exists for Picture, does the following code compile?

SimplePicture p = new Picture();

Yes

7. Assuming that a no-argument constructor exists for SimplePicture, does the following code compile?

Picture p = new SimplePicture();

No

Complete Exercises 1 – 6 – copy and paste your code here

#3

*/\*\*  
 \* Method to set Green & Red values to 0, keeping only 0  
 \*/*public void keepOnlyBlue()  
{  
 Pixel[][] pixels = this.getPixels2D();  
  
 for (Pixel[] pRow : pixels)  
 {  
 for (pColumn : pRow)  
 {  
 pColumn.setRed(0);  
 pColumn.setGreen(0);  
 }  
 }  
}

#4

*/\*\*  
 \* Negate all the pixels  
 \*/*public void negate()  
{  
 Pixel[][] pixels = this.getPixels2D();  
  
 for (Pixel[] pRow : pixels)  
 {  
 for (pColumn : pRow)  
 {  
 pColumn.setRed(255 - pColumn.getRed());  
 pColumn.setGreen(255 - pColumn.getGreen());  
 pColumn.setBlue(255 - pColumn.getBlue());  
 }  
 }  
}

#5

*/\*\*  
 \* Grayscale all the pixels  
 \*/*public void grayscale()  
{  
 Pixel[][] pixels = this.getPixels2D();  
  
 for (Pixel[] pRow : pixels)  
 {  
 for (Pixel pColumn : pRow)  
 {  
 int iAvg = (int) (pColumn.getRed() + pColumn.getGreen() + pColumn.getBlue()) / 3;  
  
 pColumn.setRed(iAvg);  
 pColumn.setGreen(iAvg);  
 pColumn.setBlue(iAvg);  
 }  
 }  
}

#6

*/\*\*  
 \* Fix pixels for "water.jpg"  
 \*/*public void fixUnderwater()  
{  
 Pixel[][] pixels = this.getPixels2D();  
  
 for (Pixel[] pRow : pixels)  
 {  
 for (Pixel pColumn : pRow)  
 {  
 int iBlue = pColumn.getBlue();  
 int iRed = pColumn.getRed();  
 int iGreen = pColumn.getGreen();  
  
 if (iBlue < 155 || iBlue > 180 || iRed < 10 || iRed > 25 || iGreen < 155 || iGreen > 165)  
 {  
 pColumn.setRed(0);  
 pColumn.setGreen(0);  
 pColumn.setBlue(0);  
 }  
 }  
 }  
}