| | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-all.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/PictureFrame.html)   [**NEXT CLASS**](http://docs.google.com/Playback.html) | [**FRAMES**](http://docs.google.com/index.html?Pixel.html)    [**NO FRAMES**](http://docs.google.com/Pixel.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

## Class Pixel

[java.lang.Object](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true)  
 **Pixel**

public class **Pixel**extends [Object](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true)

Class that references a pixel in a picture. A pixel has an x and y location in a picture. A pixel knows how to get and set the red, green, blue, and alpha values in the picture. A pixel also knows how to get and set the color using a Color object. Copyright Georgia Institute of Technology 2004

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| **Constructor Summary** | |
| --- | --- |
| [**Pixel**](http://docs.google.com/Pixel.html#Pixel(DigitalPicture,%20int,%20int))([DigitalPicture](http://docs.google.com/DigitalPicture.html) picture, int x, int y)            A constructor that take the x and y location for the pixel and the picture the pixel is coming from |

| **Method Summary** | |
| --- | --- |
| double | [**colorDistance**](http://docs.google.com/Pixel.html#colorDistance(java.awt.Color))([Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) testColor)            Method to get the distance between this pixel's color and the passed color |
| static double | [**colorDistance**](http://docs.google.com/Pixel.html#colorDistance(java.awt.Color,%20java.awt.Color))([Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) color1, [Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) color2)            Method to compute the color distances between two color objects |
| int | [**getAlpha**](http://docs.google.com/Pixel.html#getAlpha())()            Method to get the amount of alpha (transparency) at this pixel. |
| double | [**getAverage**](http://docs.google.com/Pixel.html#getAverage())()            Method to get the average of the colors of this pixel |
| int | [**getBlue**](http://docs.google.com/Pixel.html#getBlue())()            Method to get the amount of blue at this pixel. |
| static int | [**getBlue**](http://docs.google.com/Pixel.html#getBlue(int))(int value)            Method to get the blue value from a pixel represented as an int |
| [Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) | [**getColor**](http://docs.google.com/Pixel.html#getColor())()            Method to get a color object that represents the color at this pixel. |
| int | [**getGreen**](http://docs.google.com/Pixel.html#getGreen())()            Method to get the amount of green at this pixel. |
| static int | [**getGreen**](http://docs.google.com/Pixel.html#getGreen(int))(int value)            Method to get the green value from a pixel represented as an int |
| int | [**getRed**](http://docs.google.com/Pixel.html#getRed())()            Method to get the amount of red at this pixel. |
| static int | [**getRed**](http://docs.google.com/Pixel.html#getRed(int))(int value)            Method to get the red value from a pixel represented as an int |
| int | [**getX**](http://docs.google.com/Pixel.html#getX())()            Method to get the x location of this pixel. |
| int | [**getY**](http://docs.google.com/Pixel.html#getY())()            Method to get the y location of this pixel. |
| void | [**setAlpha**](http://docs.google.com/Pixel.html#setAlpha(int))(int value)            Method to set the alpha (transparency) to a new alpha value |
| void | [**setBlue**](http://docs.google.com/Pixel.html#setBlue(int))(int value)            Method to set the blue to a new blue value |
| void | [**setColor**](http://docs.google.com/Pixel.html#setColor(java.awt.Color))([Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) newColor)            Method to set the pixel color to the passed in color object. |
| void | [**setGreen**](http://docs.google.com/Pixel.html#setGreen(int))(int value)            Method to set the green to a new green value |
| void | [**setRed**](http://docs.google.com/Pixel.html#setRed(int))(int value)            Method to set the red to a new red value |
| [String](http://java.sun.com/javase/6/docs/api/java/lang/String.html?is-external=true) | [**toString**](http://docs.google.com/Pixel.html#toString())()            Method to return a string with information about this pixel |
| void | [**updatePicture**](http://docs.google.com/Pixel.html#updatePicture(int,%20int,%20int,%20int))(int alpha, int red, int green, int blue)            Method to update the picture based on the passed color values for this pixel |

| **Methods inherited from class java.lang.**[**Object**](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true) |
| --- |
| [clone](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#clone()), [equals](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#equals(java.lang.Object)), [finalize](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#finalize()), [getClass](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#getClass()), [hashCode](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#hashCode()), [notify](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#notify()), [notifyAll](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#notifyAll()), [wait](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#wait()), [wait](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#wait(long)), [wait](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### Pixel

public **Pixel**([DigitalPicture](http://docs.google.com/DigitalPicture.html) picture,  
 int x,  
 int y)

A constructor that take the x and y location for the pixel and the picture the pixel is coming from

**Parameters:**picture - the picture that the pixel is inx - the x location of the pixel in the picturey - the y location of the pixel in the picture

| **Method Detail** |
| --- |

### getX

public int **getX**()

Method to get the x location of this pixel.

**Returns:**the x location of the pixel in the picture

### getY

public int **getY**()

Method to get the y location of this pixel.

**Returns:**the y location of the pixel in the picture

### getAlpha

public int **getAlpha**()

Method to get the amount of alpha (transparency) at this pixel. It will be from 0-255.

**Returns:**the amount of alpha (transparency)

### getRed

public int **getRed**()

Method to get the amount of red at this pixel. It will be from 0-255 with 0 being no red and 255 being as much red as you can have.

**Returns:**the amount of red from 0 for none to 255 for max

### getRed

public static int **getRed**(int value)

Method to get the red value from a pixel represented as an int

**Parameters:**value - the color value as an int **Returns:**the amount of red

### getGreen

public int **getGreen**()

Method to get the amount of green at this pixel. It will be from 0-255 with 0 being no green and 255 being as much green as you can have.

**Returns:**the amount of green from 0 for none to 255 for max

### getGreen

public static int **getGreen**(int value)

Method to get the green value from a pixel represented as an int

**Parameters:**value - the color value as an int **Returns:**the amount of green

### getBlue

public int **getBlue**()

Method to get the amount of blue at this pixel. It will be from 0-255 with 0 being no blue and 255 being as much blue as you can have.

**Returns:**the amount of blue from 0 for none to 255 for max

### getBlue

public static int **getBlue**(int value)

Method to get the blue value from a pixel represented as an int

**Parameters:**value - the color value as an int **Returns:**the amount of blue

### getColor

public [Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) **getColor**()

Method to get a color object that represents the color at this pixel.

**Returns:**a color object that represents the pixel color

### setColor

public void **setColor**([Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) newColor)

Method to set the pixel color to the passed in color object.

**Parameters:**newColor - the new color to use

### updatePicture

public void **updatePicture**(int alpha,  
 int red,  
 int green,  
 int blue)

Method to update the picture based on the passed color values for this pixel

**Parameters:**alpha - the alpha (transparency) at this pixelred - the red value for the color at this pixelgreen - the green value for the color at this pixelblue - the blue value for the color at this pixel

### setRed

public void **setRed**(int value)

Method to set the red to a new red value

**Parameters:**value - the new value to use

### setGreen

public void **setGreen**(int value)

Method to set the green to a new green value

**Parameters:**value - the value to use

### setBlue

public void **setBlue**(int value)

Method to set the blue to a new blue value

**Parameters:**value - the new value to use

### setAlpha

public void **setAlpha**(int value)

Method to set the alpha (transparency) to a new alpha value

**Parameters:**value - the new value to use

### colorDistance

public double **colorDistance**([Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) testColor)

Method to get the distance between this pixel's color and the passed color

**Parameters:**testColor - the color to compare to **Returns:**the distance between this pixel's color and the passed color

### colorDistance

public static double **colorDistance**([Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) color1,  
 [Color](http://java.sun.com/javase/6/docs/api/java/awt/Color.html?is-external=true) color2)

Method to compute the color distances between two color objects

**Parameters:**color1 - a color objectcolor2 - a color object **Returns:**the distance between the two colors

### getAverage

public double **getAverage**()

Method to get the average of the colors of this pixel

**Returns:**the average of the red, green, and blue values

### toString

public [String](http://java.sun.com/javase/6/docs/api/java/lang/String.html?is-external=true) **toString**()

Method to return a string with information about this pixel

**Overrides:**[toString](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true#toString()) in class [Object](http://java.sun.com/javase/6/docs/api/java/lang/Object.html?is-external=true) **Returns:**a string with information about this pixel

| | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-all.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/PictureFrame.html)   [**NEXT CLASS**](http://docs.google.com/Playback.html) | [**FRAMES**](http://docs.google.com/index.html?Pixel.html)    [**NO FRAMES**](http://docs.google.com/Pixel.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
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