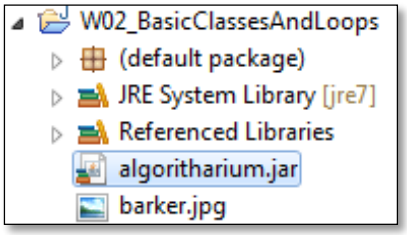
Using Loops on an Image

For this assignment, you will be completing the PaintableCanvas.java file. There are several methods in that file that you will need to finish, but the assignment needs a little setup first.

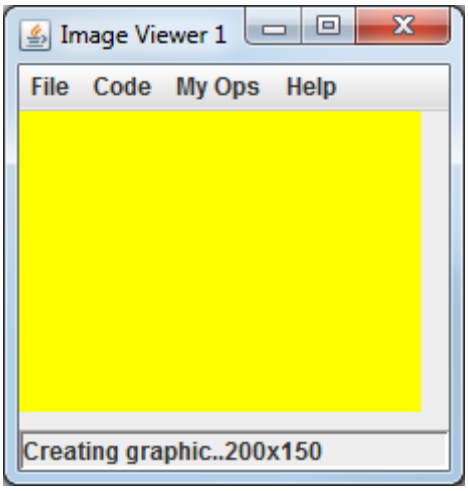
Starting algoritharium.jar

In the eclipse folder for this assignment double click the algoritharium.jar file to start the program.



Load an image

Although you can load in any image you want to work with, select File → New to load one that is all yellow.

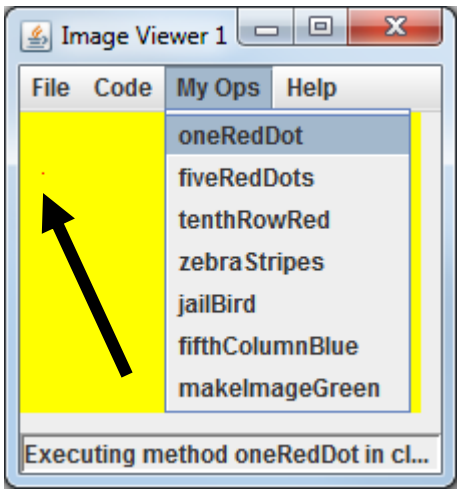


Load the code

Select Code → Load and open the PaintableCanvas.class file found in your eclipse folder for this assignment. Note that eclipse must have already compiled this class for you, so be sure to open eclipse first.

Run a method

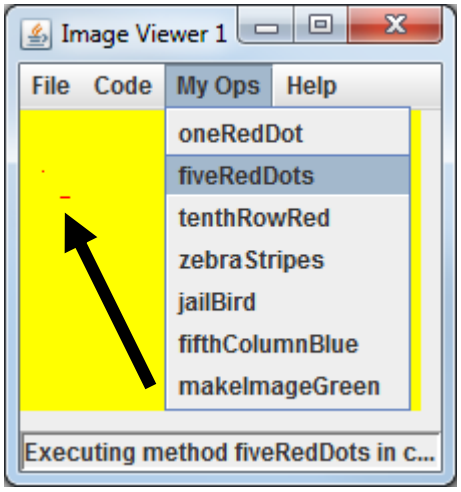
Select My Ops → oneRedDot to run the method, and notice the small red dot on the 11th column and 30th row.




```
public void oneRedDot ( ) {
    //The following line grabs whatever image is currently loaded
    //so make sure you open an image, or use File -> New
    Image img = ImageViewer.getImage();

    //The following line set's pixel (11,30) to RED.
    //That is 11 pixels over, and 30 pixels down
    img.setPixelColor(11, 30, Color.RED);
}
```

Run another method

Run the fiveRedDots method and notice that there are 5 pixels in a row that are now colored.



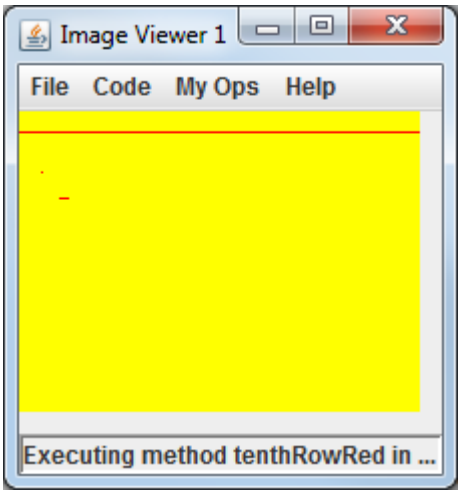

```
public void fiveRedDots(){
    Image img = ImageViewer.getImage();

    img.setPixelColor(20, 43, Color.RED);
    img.setPixelColor(21, 43, Color.RED);
    img.setPixelColor(22, 43, Color.RED);
    img.setPixelColor(23, 43, Color.RED);
    img.setPixelColor(24, 43, Color.RED);
}
```

Assignment

Complete the following methods to create the following pictures, then turn in your PaintableCanvas.java file. Don't forget to try them on a different sized picture, like the barker.jpg file in the project folder in eclipse just to be sure your loops work correctly and don't give an out of bounds error.

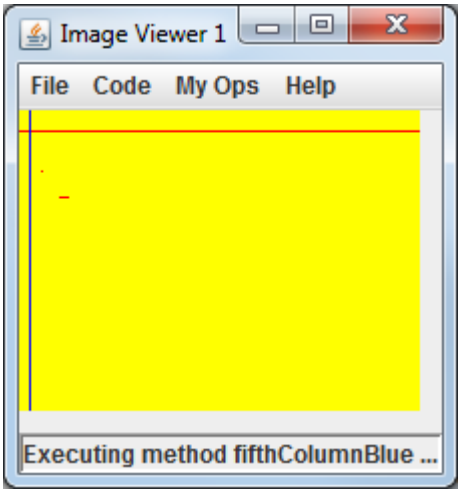
tenthRowRed

This method should put a red line through the entire picture on row 10 as shown in the following figures:



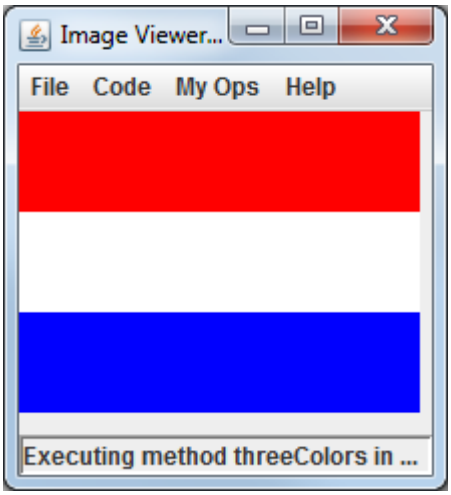
fifthColumnBlue

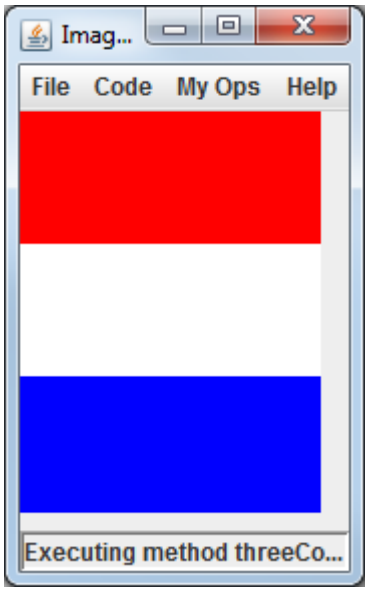
This method should put a blue line through the entire picture on column 5, as shown in the following figures:



threeColors

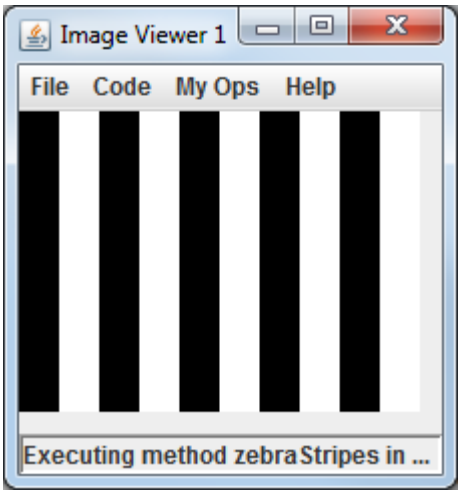
This method should make the top third of the image red, the second third white, and the final third, blue, as shown in the following figures:

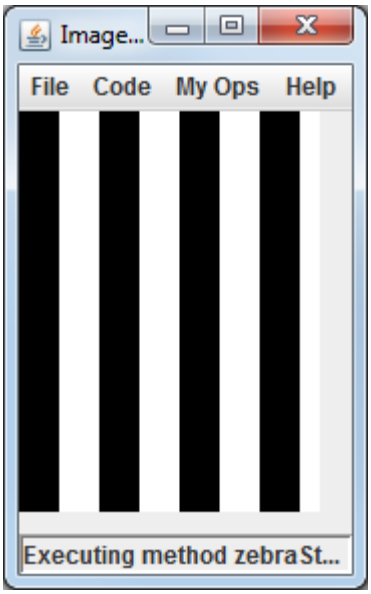




zebraStripes

This method should put vertical black and white stripes through the image, changing every 20 columns to the other color as shown in the following figures:





jailbird

This method should put horizontal black and white stripes through the image, changing every 20 rows to the other color as shown in the following figures: