Part 1

Write the green screen algorithm you saw in the lecture video yourself. To make sure you really understand the code that was written in the video, you should write the code yourself without looking at the video unless you get stuck and need to refer back to it for a hint.

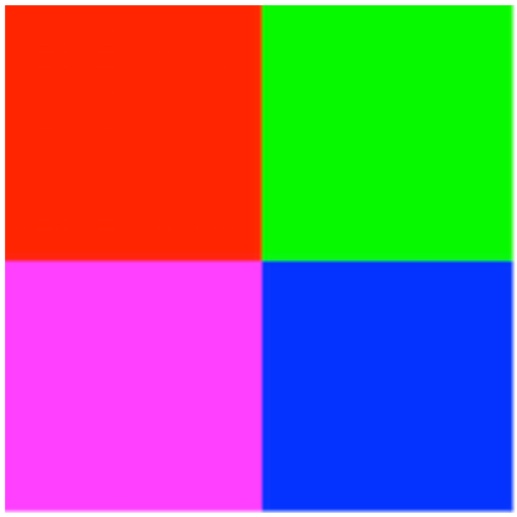
```
//Start with the foreground image you want (fgImage)
var fgImage= new SimpleImage ("drewRobert.png");
//.. and with background image you want (bgImage)
var bgImage = new SimpleImage ("dinos.png");
//Make a blank image of the same size (OUTPUT)
var output = new SimpleImage (fgImage.getWidth(),fgImage.getHeight());

//write code for each step :
//For each pixel (CurrentPixel) in fgImage
for (var pixel of fgImage.values())
  {
  // Look at the current position if it is green
  if(pixel.getGreen() > pixel.getRed()+pixel.getBlue())
  {
  // Look at same position in BG Image
  var X = pixel.getX();
  var Y = pixel.getY();
  var bgPixel=bgImage.getPixel(X,Y);
  //and set output's corresponding pixel to bgImage's pixel
  output.setPixel(X,Y,bgPixel);
  }
  //otherwise : Set output's corresponding pixel current pixel
  else {
        output.setPixel(pixel.getX(), pixel.getY(), pixel );

    }
  }

// Show your answer !
print(output);
```

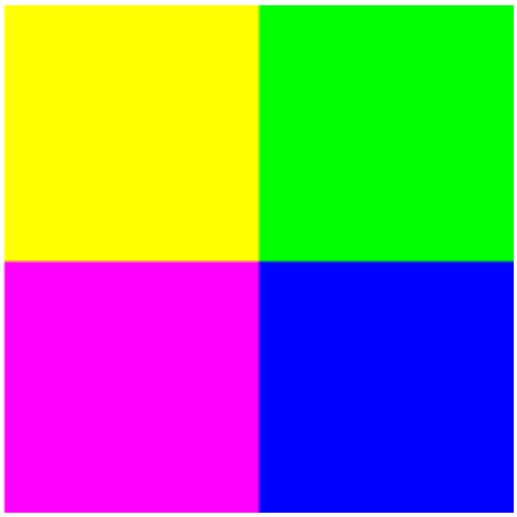
Part 2

Your friend is trying to write a program that draws a square 200 pixels by 200 pixels and that looks like this square with colors red (red value 255), green (green value 255), blue (blue value 255) and magenta (red value 255 and blue value 255). All other RGB values are set to 0

```
var img = new SimpleImage(200,200);
for (var px of img.values()){
  var x = px.getX();
  var y = px.getY();
  if (x < img.getWidth()/2){
    px.setRed(255);
  }
  if (y>img.getHeight()/2){
    px.setBlue(255);
  }
  else {
    px.setGreen(255);
  }
}
print (img);
```

It is supposed to produce the image on the left but it actually produces the image on the right.





```
print('Hi');
var img = new SimpleImage(200,200);
for (var px of img.values()){
  var x = px.getX();
  var y = px.getY();
  if (x < img.getWidth()/2){
    px.setRed(255);
  }
 if (y>img.getHeight()/2){
    px.setBlue(255);
  }
  if (x>= img.getWidth()/2  &&  y<=img.getHeight()/2  )
  {


    px.setGreen(255);


  }

}
print (img);
```

Part 3

Write a function named setBlack that has one parameter pixel (representing a single pixel) and returns pixel with its red, green, and blue components changed so that the pixel's color is black.

```
var img = new SimpleImage("SmallPanda.png");
var xBound = img.getWidth()-10;
var yBound = img.getHeight()-10;

function setBlack (p){
   p.setRed(0);
   p.setBlue(0);
   p.setGreen(0);
}

for (var pixel of img.values()){
  if (pixel.getX()<=10 || pixel.getX()>=xBound)
     setBlack(pixel);

  if (pixel.getY()<=10 || pixel.getY()>=yBound)
     setBlack(pixel);

}
print (img);
```