```
import processing.serial.*;
import ddf.minim.spi.*;
import ddf.minim.signals.*;
import ddf.minim.*;
import ddf.minim.analysis.*;
import ddf.minim.ugens.*;
import ddf.minim.effects.*;
String colorstring;
String values;
PImage colorwheel;
PFont myfont;
Serial newport;
color mouseColor;
int thisx;
int thisy;
int buttonx=0;
int buttony=0;


void setup()
{

  size(displayWidth/2,displayHeight/2);
  background(180);
  smooth();
  colorwheel=loadImage("color_w.png");
  myfont = createFont("Helvetica", 24);
  println(Serial.list());
  newport = new Serial(this,Serial.list()[32],9600);
};

void draw()
{
  background(0);
  image(colorwheel,0,0,((displayWidth/2)-100),
((displayHeight/2-100)));
  //colorwheel.resize(0,displayHeight);
  //image(colorwheel,0,0);
   //colorwheel.width=(displayWidth/2);
   //colorwheel.height=(displayHeight/2);
```

```
/*sets mousex and mousey only if pointer is in the area of the
image/*

if ((mousePressed) && ((mouseX<(displayWidth/2)-100) &&
((mouseY<(displayHeight/2)-100))))
{
thisx=mouseX;
thisy=mouseY;
mouseColor=whichcolor(thisx,thisy);
}

//*****************************

  //a button to send data
  fill(87,93,124);
  stroke(0,255,68);
  buttonx = ((displayWidth/2)-75);
  buttony = ((displayHeight/2)-75);
  rect(buttonx,buttony,50,50,5);
  //**********************

//off button

fill(255,10,10);
  stroke(0,255,68);
  rect(buttonx,buttony-140,50,50,5);

if ((mousePressed) && (mouseX>buttonx && mouseX<(buttonx+50) &&
mouseY>(buttony-140) && mouseY<(buttony-90)))
  {
    newport.write('X');
  }


//**********************
```

```
  //draw a rectangle filled with that color;
  fill(mouseColor);
  stroke(0,255,68);
  rect(buttonx,buttony-70,50,50,5);
  //**********************

  //text displaying current RGB value
  fill(255,0,0);
  textFont(myfont);
  textSize(16);
  //red
  text(round(red(mouseColor)), 100,100);
  //green
  fill(0,255,0);
  text(round(green(mouseColor)), 125, 125);
  //blue
  fill(0,0,255);
  text(round(blue(mouseColor)), 150, 150);
  //***************************

  //if button pressed
    if ((mousePressed) && (mouseX>buttonx && mouseX<(buttonx+50)
&& mouseY>buttony && mouseY<(buttony+50)))
  {
  int red;
  int green;
  int blue;
  fill(255,255,255);
  red=round(red(mouseColor));
  green=round(green(mouseColor));
  blue=round(blue(mouseColor));
  String redstring=checkval(red);
  String greenstring=checkval(green);
  String bluestring=checkval(blue);

  values=("<"+redstring+","+greenstring+","+bluestring+">");
  newport.write(values);
  }

  if (newport.available()>0)
  {
  print(char(newport.read())); //Reads data coming from arduino
  }
};
```

```
/*This function calculates number of digits in the int and appends
number of zeroes accordingly to make it a 3 digit string. It's a
shortcut, but works for this case, where the digits wont go
above 3*/

String checkval(int val)
{
  int result=0;
  result=val/10;

  if (result<1)
    {
      colorstring=("0"+"0"+val);
      //exit();
    }
  else if (result<10)
   {
    colorstring=("0"+val);
    //exit();
   }
   else if (result<100)
   {
     colorstring=String.valueOf(val);
     //exit();
   }

return colorstring;
}


//color under the pointer
color whichcolor(int x,int y)
{
  color mousecolor;
  mousecolor=get(mouseX,mouseY);
  return mousecolor;
}
//**************************
```