Codes in Processing for the phone notification display

```
import processing.serial.*;

Serial myPort; // create a new instance of the Serial class

int distance = 0; // variable to store the distance value

int degree=0; // variable to store the degree value


PImage backgroundImg;

PFont systemFont;


void setup() {
 size(375, 667); // set the size to match an iPhone screen
  backgroundImg = loadImage("wallpaper.jpg"); // load the background image
  noStroke();
  textAlign(LEFT, TOP);
  textSize(20);
  systemFont = createFont("Arial", 20); // load the Arial font


  // initialize the serial communication with the Arduino
  String portName = Serial.list()[4]; // index number 4 matches the serial port connected to my Arduino
  myPort = new Serial(this, portName, 9600);
}


void draw() {
  // display the background image
  image(backgroundImg, 0, 0, width, height);


  // read the data from the serial port
  if (myPort.available() > 0) {
```

```
  String data = myPort.readStringUntil('.');

 if (data != null) {

  // extract the distance value from the received data

  String[] values = split(data, ',');

  if (values.length == 2) {

    degree = int(values[0]);

    distance = int(values[1]);

  }

 }

}


// display the "Alert Intruder" notification banner when the distance is less than or equal to 15

if ((distance <= 15) && (degree>=35) && (degree<=145) ) {

 fill(200, 0, 0);

 rect(0, 0, width, 40);

 fill(255);

 textFont(systemFont);

 text("Intruder Alert", 20, 10);

}


// display the time and date in the top left corner with a custom font

fill(255);

textFont(systemFont);

String time = nf(hour(), 2) + ":" + nf(minute(), 2);

String date = nf(month(), 2) + "/" + nf(day(), 2) + "/" + nf(year(), 4);

text(time, 20, 50);

textSize(14);

text(date, 20, 75);
```

```
// display the first notification banner
fill(54, 61, 79);
rect(0, 100, width, 80);
fill(255);
textFont(systemFont);
text("New Message", 20, 110);
textSize(16);
fill(255, 255, 255, 220);
text("John: Hey, what's up?", 20, 140);


// display the second notification banner
fill(54, 61, 79);
rect(0, 200, width, 80);
fill(255);
textFont(systemFont);
text("Calendar Event", 20, 210);
textSize(16);
fill(255, 255, 255, 220);
text("Meeting with client at 2 PM", 20, 245);
}
```