Analog_Clock_Example__Advanced_

```
//Analog Clock Example (Advanced)
//loop example includes "for loop" for(a=0,a<100,a++)
//Mr. H.

int rDash = 200;
int rSecond = 180;
int rMinute = 160;
int rHour = 140;
float x;
float y;

void setup()
{
 size(600, 600);
}

void draw()
{
 background(255);

 //draws circle outline of clock
 noFill();
 stroke(0);
 strokeWeight(2);
 ellipse(300, 300, 480, 480);


 // Draw the minute ticks
 strokeWeight(4);
 stroke(0, 0, 200);
 beginShape(POINTS);
 for (int a = 0; a < 360; a+=6) {
   float angle = radians(a);
   float x = 300 + cos(angle) * rDash;
   float y = 300 + sin(angle) * rDash;
   vertex(x, y);
 }


 // Draw the five minute dashes
 strokeWeight(5);
 stroke(0, 0, 200);
 beginShape(POINTS);
 for (int a = 0; a < 360; a+=30) {
   float angle = radians(a);
   line(300+cos(angle)*rDash*1.05, 300+sin(angle)*rDash*1.05, 300+cos(angle)*rDash*0.95,
300+sin(angle)*rDash*0.95);
```

```
}


//draws hour hand of clock
x = 300+cos(map(hour(), 0, 12, 0, TWO_PI) - HALF_PI)*rHour;
y = 300+sin(map(hour(), 0, 12, 0, TWO_PI) - HALF_PI)*rHour;
stroke(0, 200, 0);
strokeWeight(8);
line(300, 300, x, y);


//draws minute hand of clock
x = 300+cos(map(minute(), 0, 60, 0, TWO_PI) - HALF_PI)*rMinute;
y = 300+sin(map(minute(), 0, 60, 0, TWO_PI) - HALF_PI)*rMinute;
stroke(0, 200, 0);
strokeWeight(5);
line(300, 300, x, y);


//draws second hand of clock
x = 300+cos(map(second(), 0, 60, 0, TWO_PI) - HALF_PI)*rSecond;
y = 300+sin(map(second(), 0, 60, 0, TWO_PI) - HALF_PI)*rSecond;
stroke(255, 0, 0);
strokeWeight(2);
line(300, 300, x, y);


//creates a black "cap" on the clock hands
fill(0);
stroke(0);
ellipse(300,300,15,15);
}
```