

# ROBOTICS II Lesson for 04-10 May 2020

Hey Guys!! Hope you are doing well. I noticed a few of you tried to get onto TinkerCAD Circuits over the last two weeks. Colyn actually started building the circuit, but had some trouble. I wish we were all in the same room so I could be of help.

For the next two weeks, I went ahead and built the circuit we will be working with. It is under the nickname lesson35037. I will put together some links to try to let you work with it, but I would really like for you to use it as an example and **Create new Circuit** using the screenshots below as an example.

As a reminder, here is the link to get to our classroom:

<https://www.tinkercad.com/joinclass/FL1I5KQPLBVF>.

Enter your nickname and click **That's me!**

**Your nicknames are:**

kayleigh0136

destiny8172

elora5118

dempsey2925

latoya3510

martin2663

demetrius8302

rafeal7520

colyn3698

shiyazh2943

nyla5633

kameron6267

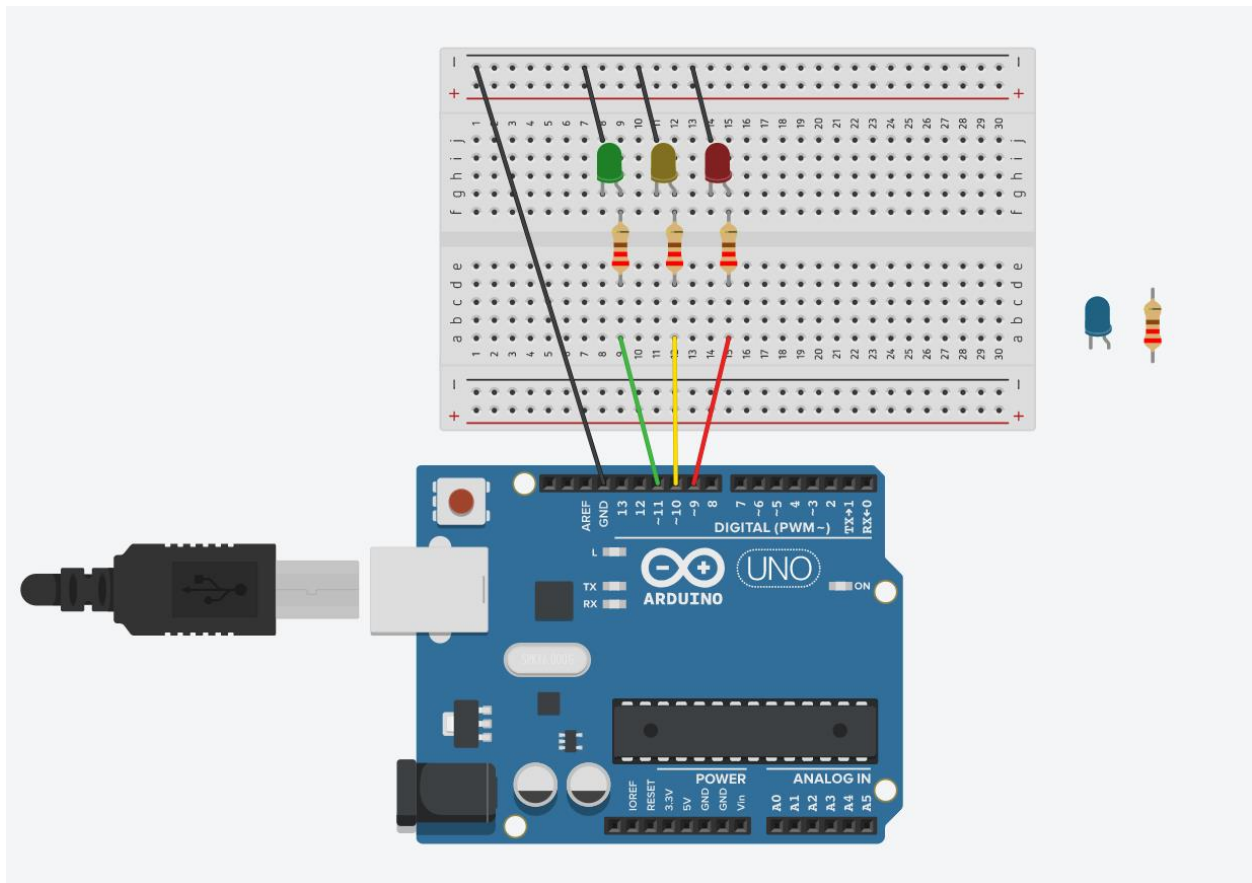
savannah7339

dr.pillay4948

tristen0027

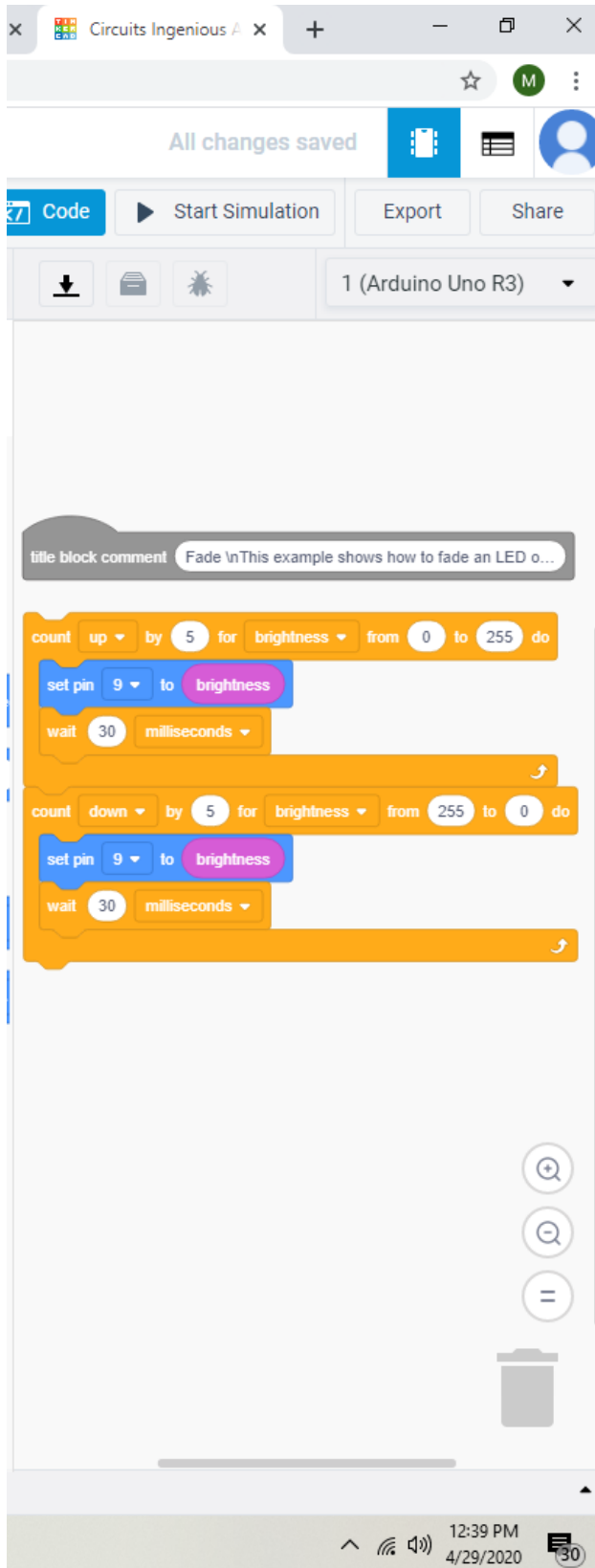
This is the circuit I built as Lesson3. You can also access it with:  
<https://www.tinkercad.com/things/9ArqkDwDfSv-ingenious-amur/editel?sharecode=0GC41gsl4WKaneg45vw5sb7rsJc13AtKSIJ3ziGoYdg>

I started by going to the Components menu in the upper right hand corner and selecting Arduino. Then dragged the Fade example. I then went back to Components and selected All. I then dragged the small breadboard. Then I clicked the LED from the example, copied, and pasted three more. I changed their colors individually. I copied the resistor the same way, but did not change the values. The blue LED and its resistor are for next week.



I also took screenshots of the code, both block form and text. This week's exercise is to rewrite the code to add the other two LEDs. I would like to see the LEDs fade on and off in the following sequence:

Red fade on, Yellow fade on, Red fade off, Green fade on, Yellow fade off, Green fade off.



```
/*  
  Fade  
  This example shows how to fade an LED on pin 9  
  using the analogWrite() function.  
  
  The analogWrite() function uses PWM, so if you  
  want to change the pin you're using, be sure to  
  use another PWM capable pin. On most Arduino,  
  the PWM pins are identified with a "~" sign,  
  like ~3, ~5, ~6, ~9, ~10 and ~11.  
*/  
  
int brightness = 0;  
  
void setup()  
{  
  pinMode(9, OUTPUT);  
}  
  
void loop()  
{  
  for (brightness = 0; brightness <= 255; brightness +=  
  5) {  
    analogWrite(9, brightness);  
    delay(30); // Wait for 30 millisecond(s)  
  }  
  for (brightness = 255; brightness >= 0; brightness -=  
  5) {  
    analogWrite(9, brightness);  
    delay(30); // Wait for 30 millisecond(s)  
  }  
}
```

We keep having meetings with Mr. McMinn every week, trying to figure out how to plan for next year, not knowing what things are going to be like. I can't wait to start setting up our new room and adding work benches with all the things we need to do more hands-on experiments. I have been watching YouTube videos and checking out the Instructables web site for ideas of things to do.

Lets see how you can do with this weeks lesson, and remember if you have any questions, you can e-mail me at [marvin@sanjuandf.com](mailto:marvin@sanjuandf.com) or call me at 505/609-8551.

Stay safe!

Mr. C