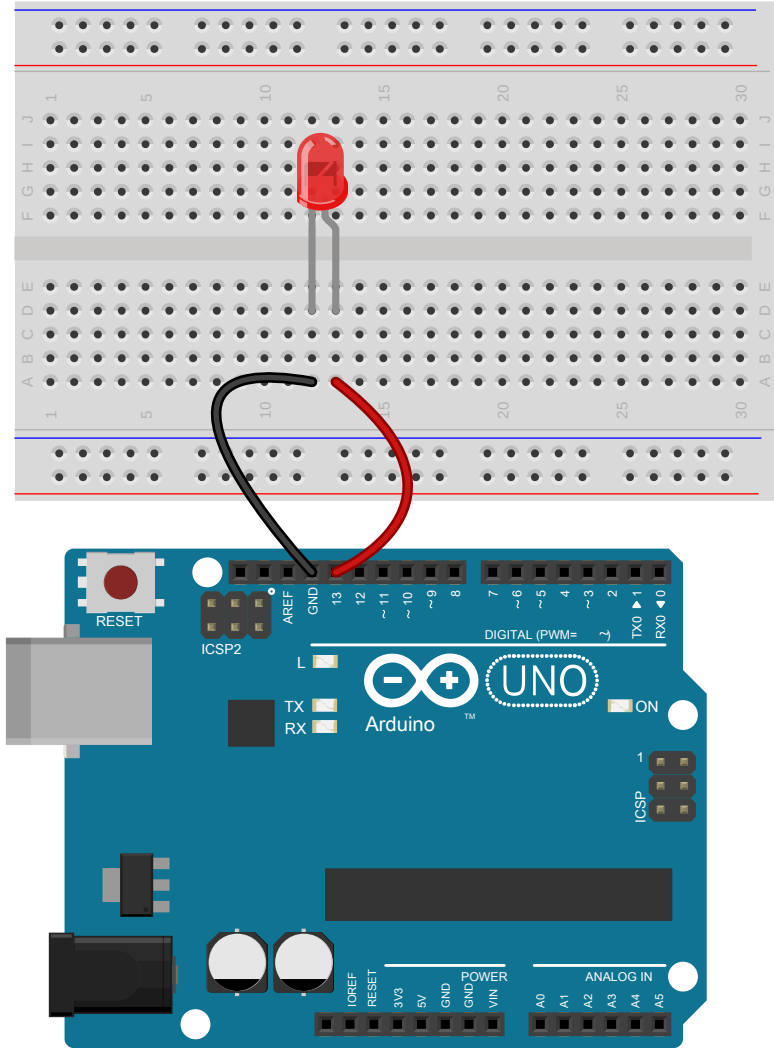


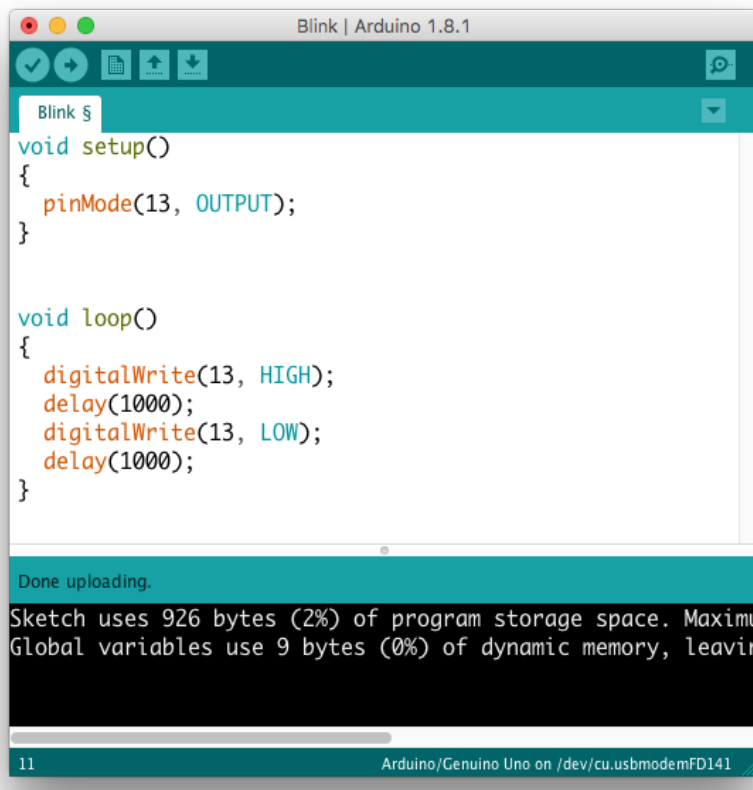
PSC-103 - Spring 2018 - Arduino Introduction

OK!

So, last time you got some LEDs to flash, right! Since you'll need to use portable power for your project, let's look into that now. First, to review a bit, get one LED flashing again:



Here's the code:



```
Blink | Arduino 1.8.1
Blink §
void setup()
{
  pinMode(13, OUTPUT);
}

void loop()
{
  digitalWrite(13, HIGH);
  delay(1000);
  digitalWrite(13, LOW);
  delay(1000);
}

Done uploading.
Sketch uses 926 bytes (2%) of program storage space. Maximum
Global variables use 9 bytes (0%) of dynamic memory, leaving
11 Arduino/Genuino Uno on /dev/cu.usbmodemFD141
```

Now, do this challenge: Think carefully about the logic of your code. Can you get two LEDs flashing, at the same rate, but when one is "on," the other should be "off." Hint: Wire one LED to Pin #whatever and GND, and the other LED between Pin #another-whatever and GND. Think logically now, (Here we go! You can do it!) and modify the code above to pull this off.

****Stop and show your instructor.****

Arduino Magic

Now, here's the coolest thing about the Arduino. Pull the USB cable out of it. Of course the flashing will stop (the Arduino was being powered by the computer over the USB cable).

- Get a 9V battery and connector and plug it into the Arduino. What happens? Prove to yourself that the Arduino is really battery operated and portable. (Yes! It'll work outside of this classroom!) Go take a walk with your flashing Arduino circuit around Building 180.
- Now try a wall wart. Find an outlet somewhere in building 180 (outside of our classroom), and plug it in. What happens?

Is your Arduino circuit portable with a battery?

YES or NO