Prelab 4

Kieran Cosgrove

1. I have an Arduino board.
2. 7/10
3. SparkFun Redboard Turbo
4. Tested and works!
5. Initially, the USB cord I was using didn't allow communication. Switching cables allowed mine to start working

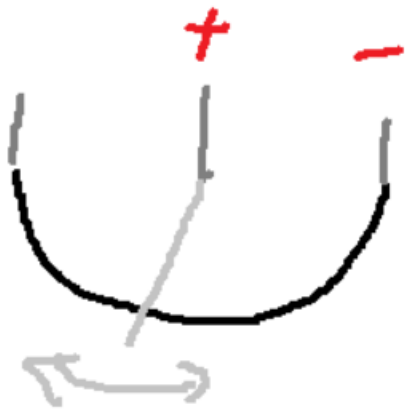
```
const int BLUE_LED = 13; // Blue "stat" LED on pin 13
const int RX_LED = PIN_LED_RXL; // RX LED on pin 25, we use the predefined PIN_LED_RXL to make sure
const int TX_LED = PIN_LED_TXL; // TX LED on pin 26, we use the predefined PIN_LED_TXL to make sure

bool ledState = LOW;

void setup()
{
  pinMode(BLUE_LED, OUTPUT);
  pinMode(RX_LED, OUTPUT);
  pinMode(TX_LED, OUTPUT);
  digitalWrite(RX_LED, HIGH);
  digitalWrite(TX_LED, HIGH);
  digitalWrite(BLUE_LED, LOW);
}

void loop()
{
  digitalWrite(RX_LED, LOW); // RX LED on
  delay(333);
  digitalWrite(RX_LED, HIGH); // RX LED off
  digitalWrite(TX_LED, LOW); // TX LED on
  delay(333);
  digitalWrite(TX_LED, HIGH); // TX LED off
  digitalWrite(BLUE_LED, HIGH); // Blue LED on
  delay(333);
  digitalWrite(BLUE_LED, LOW); // Blue LED off
}
```

6. I would measure the analog current running through the potentiometer by connecting the knob and one of the ends to a voltage source. By measuring the current in series with the circuit, the current running through the potentiometer (and therefore resistance) can be found.



7. Power Calculation through Potentiometer with 5V input and 10k Resistor in parallel with voltage source.

P = V^2 / R so P = 5^2/(10*10^3) = 0.0025 Joules

The potentiometer range is 180 degrees, so it can reach from 10k Ohms to 0 Ohms. Picture below doesn't show it at maximum range.