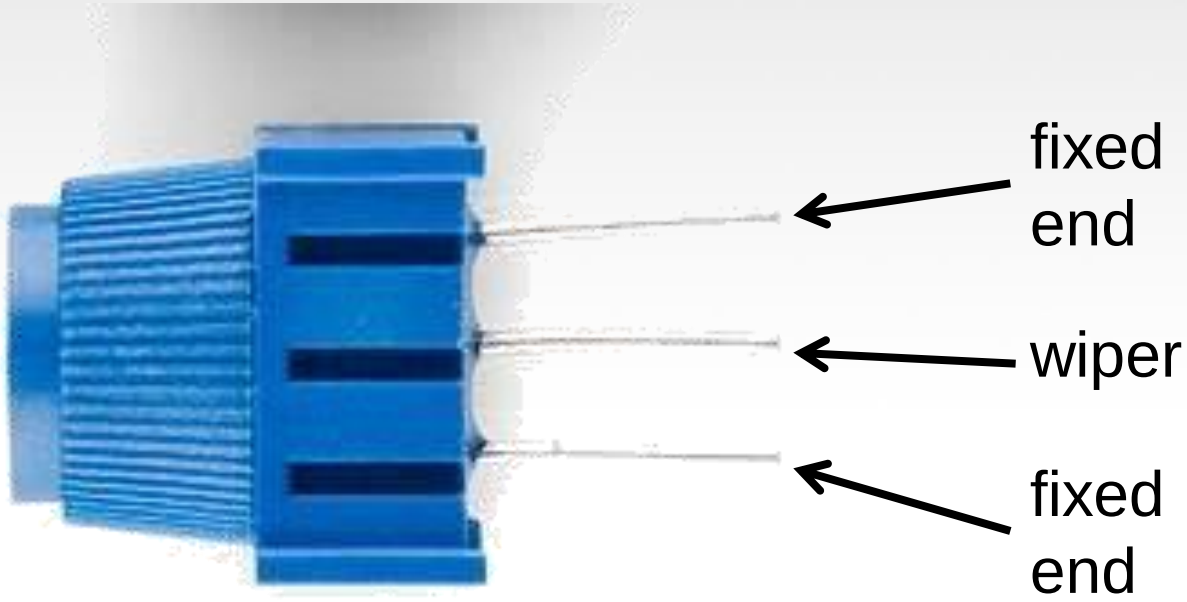
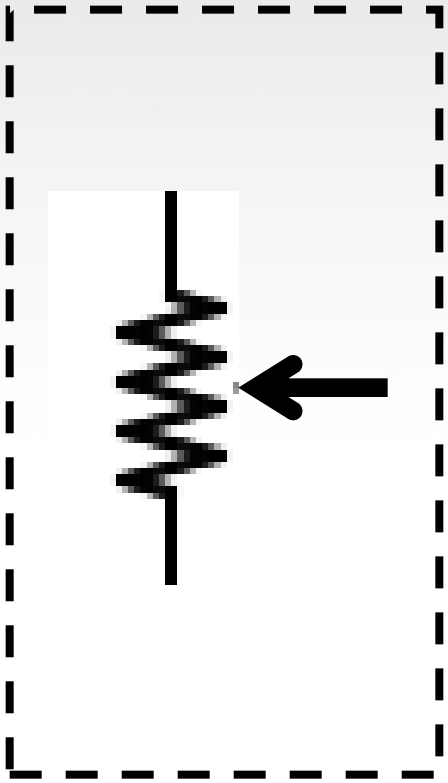
Trimpot (Potentiometer)
Variable Resistor

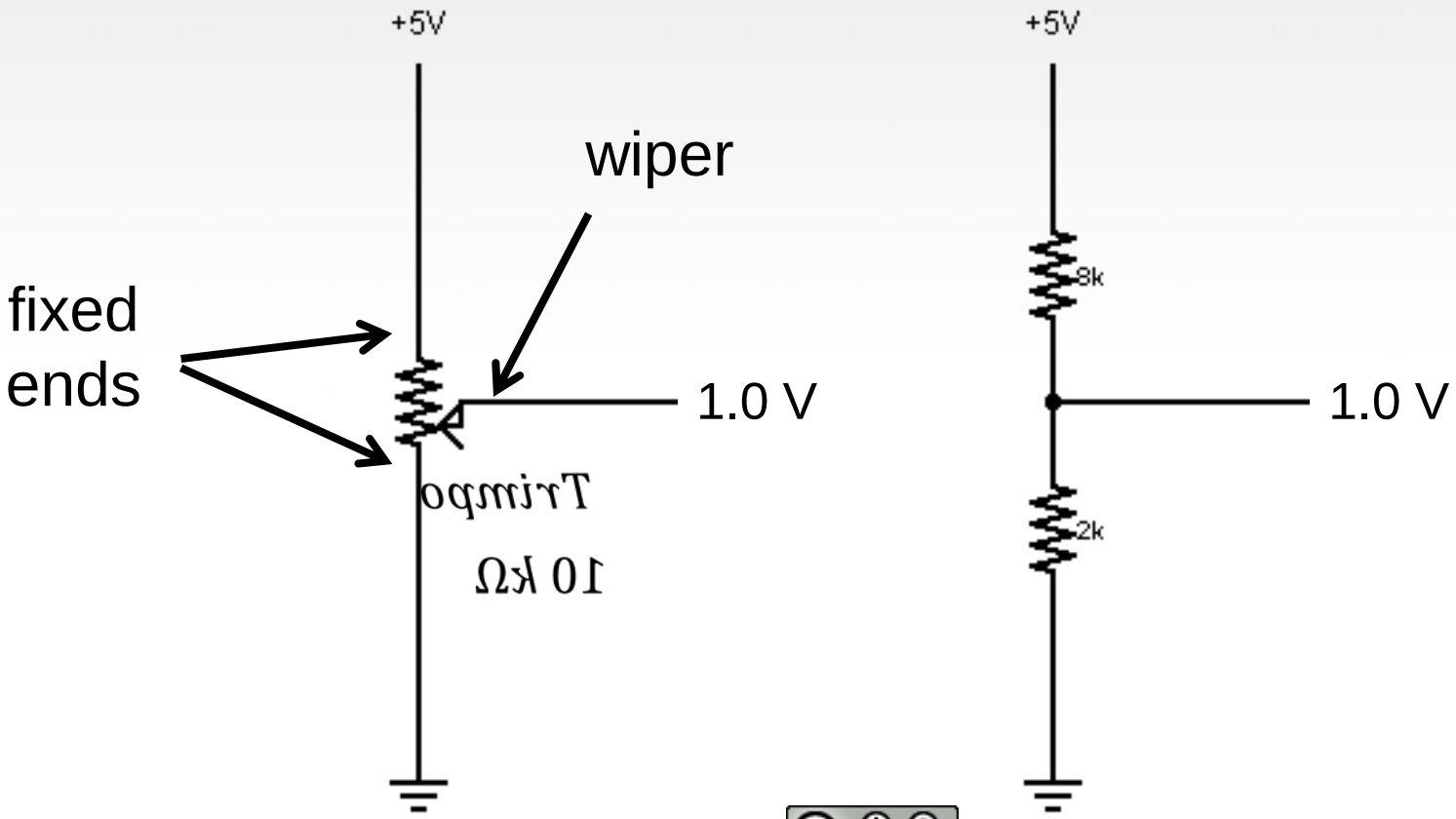




Analog Sensors

3 Pin Potentiometer = var. resistor (circuit)

a.k.a. Voltage Divider Circuit



Ohms Law… (just the basics)
Actually, this is the “voltage divider”

$$V_{R1} = V_{CC} \cdot \left(\frac{R_1}{\mathrm{R}_{Total}} \right)$$

$$V_{R2} = V_{CC} \cdot \left(\frac{R_2}{\mathrm{R}_{Total}} \right)$$

$$R_{Total} = R_1 + R_2$$

analogRead()

Arduino uses a 10-bit A/D Converter:

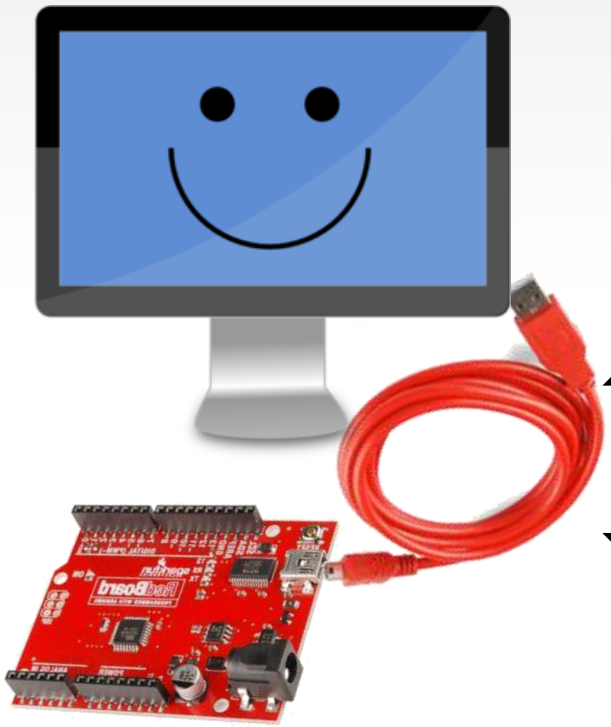
- this means that you get input values from 0 to 1023
  - 0 V → 0
  - 5 V → 1023

Ex:

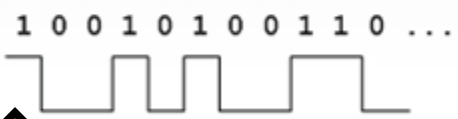
```
int sensorValue = analogRead(A0);
```

Using Serial Communication

Method used to transfer data between two devices.

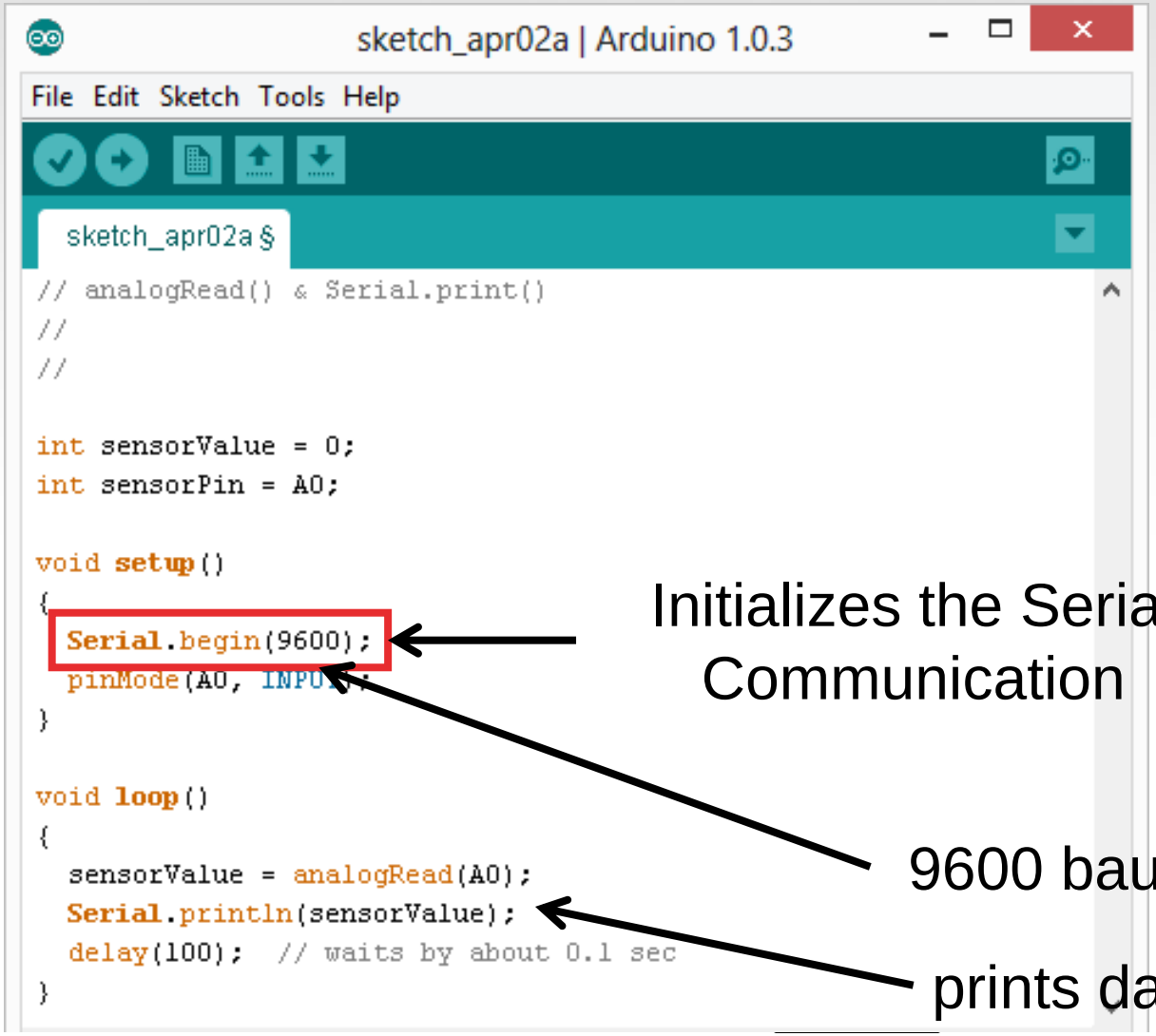


Data passes between the computer and Arduino through the USB cable. Data is transmitted as zeros (‘0’) and ones (‘1’) sequentially.



Arduino dedicates Digital I/O pin # 0 to receiving and Digital I/O pin #1 to transmit.

Serial Monitor & analogRead()

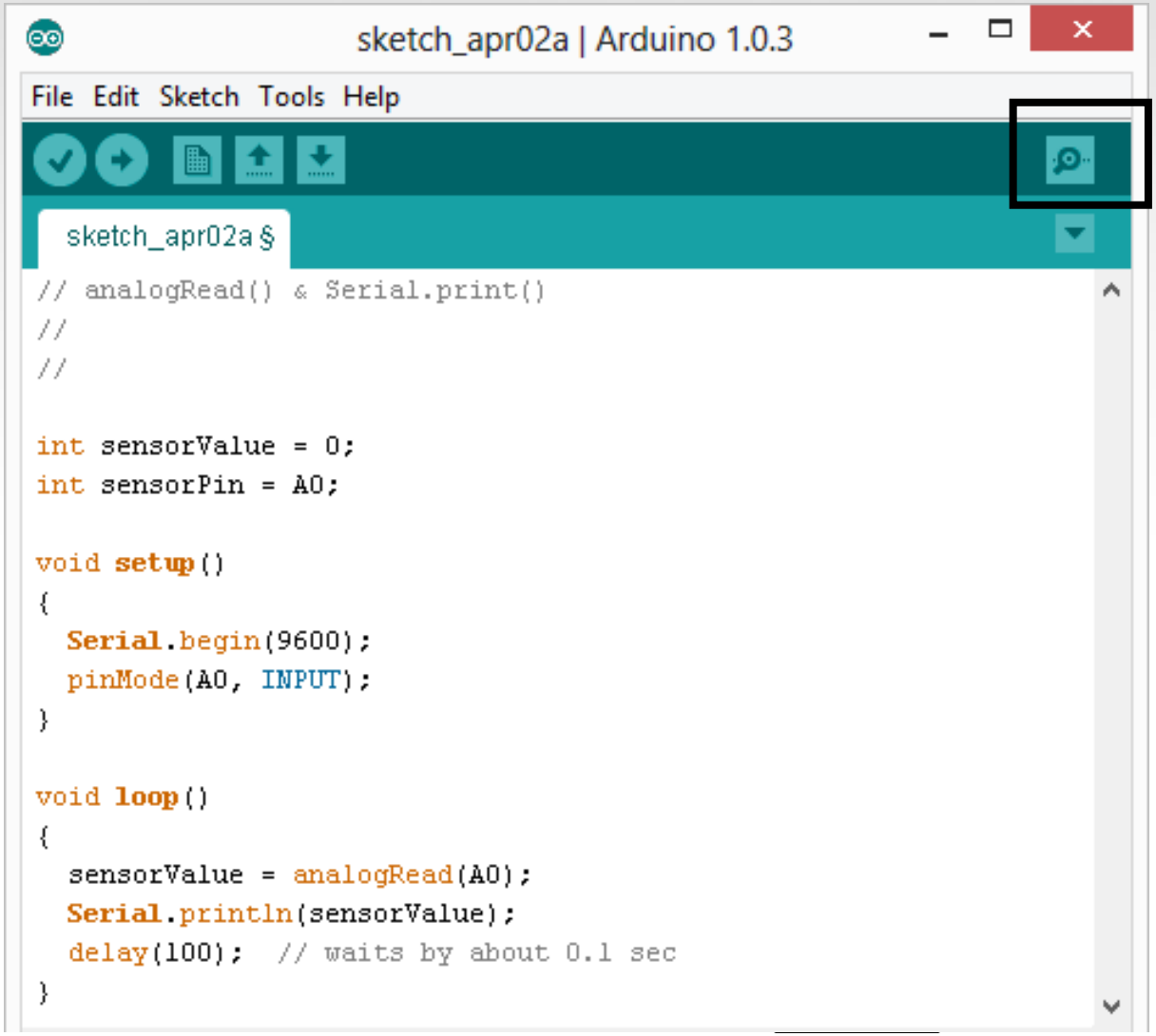


Initializes the Serial Communication

9600 baud data rate

prints data to serial bus

Serial Monitor & analogRead()



Opens up a Serial Terminal Window