

AIR LAB

Creative coding Club

#02

{ US && YOU }

Let's get started...

Arduino IDE

download->install->open

arduino.cc/en/software

Do your first thing...

Connect board (with USB cable)

Set board type (Tools->Board->Arduino AVR boards->Arduino Uno)

Select board/port (Tools->Port->your_port)

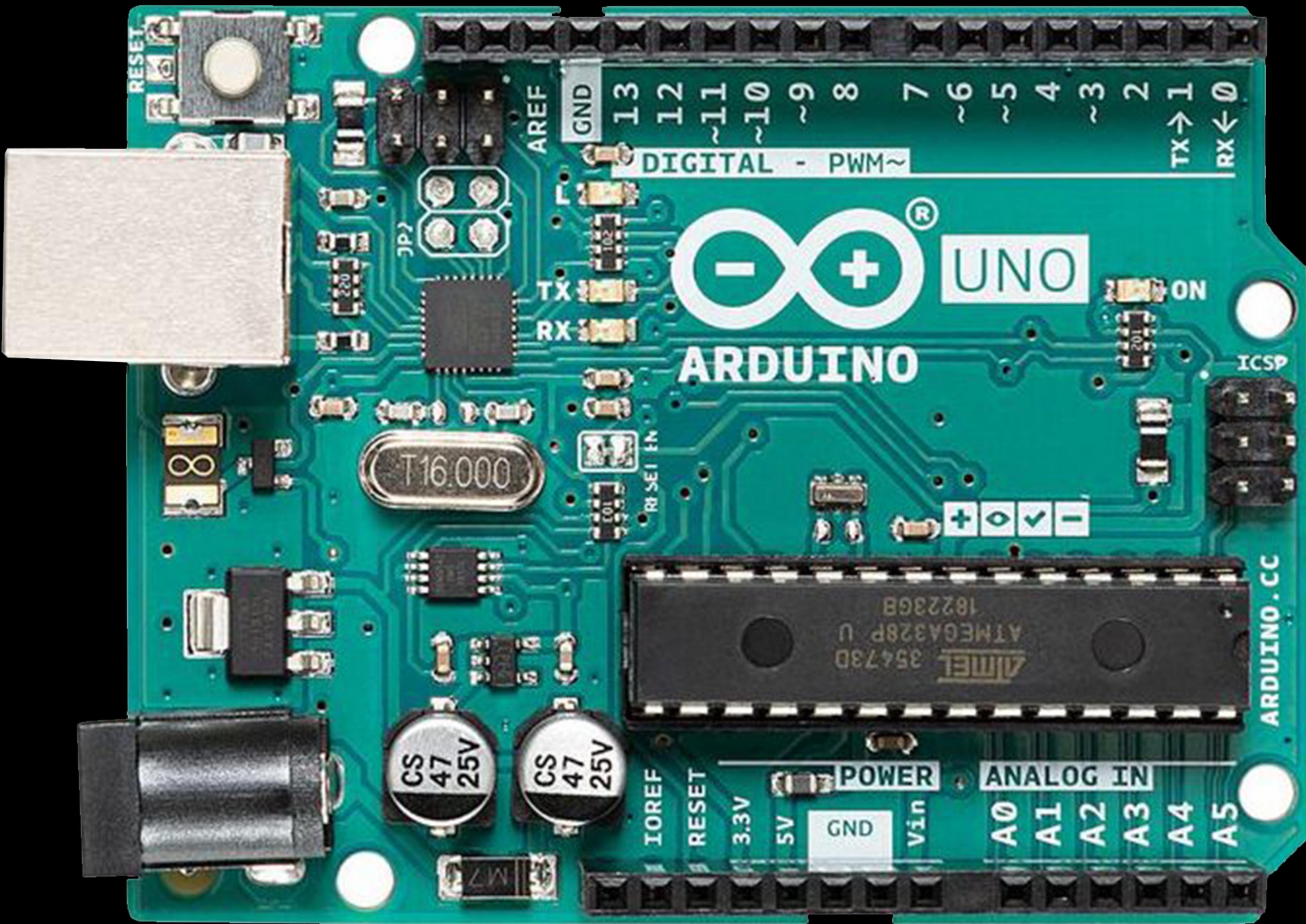
Upload your first code (File->Examples->Basic->Blink)

What is Arduino?

IDE (code editor)

Microcontrollers (compatible boards)

Add-on hardware (sensors, actuators, kit's, components, modules)





Select Board



sketch_feb27a.ino



```
1
2 // put your global scope variables here
3
4
5 void setup() {
6     // put your setup code here, to run once:
7
8 }
9
10 void loop() {
11     // put your main code here, to run repeatedly:
12
13 }
```

What is Arduino?

Debugging functions:

- Serial.begin(...)
- Serial.println(...)

I/O pin functions:

- pinMode(..., ...)
- digitalWrite(..., ...)
- analogWrite(..., ...)
- analogRead(...)
- digitalRead(...)

Other helpfull functions:

- millis()
- map(..., ..., ..., ..., ...)
- random(..., ...)

External code resources (libraries)

- FastLED

Help and inspiration

The syntax : arduino.cc/reference/en/

Built-in examples: *File -> Examples*

Getting started : arduino.cc/en/Guide

Tutorials : docs.arduino.cc/tutorials/

Other peoples projects : projecthub.arduino.cc/

INPUT

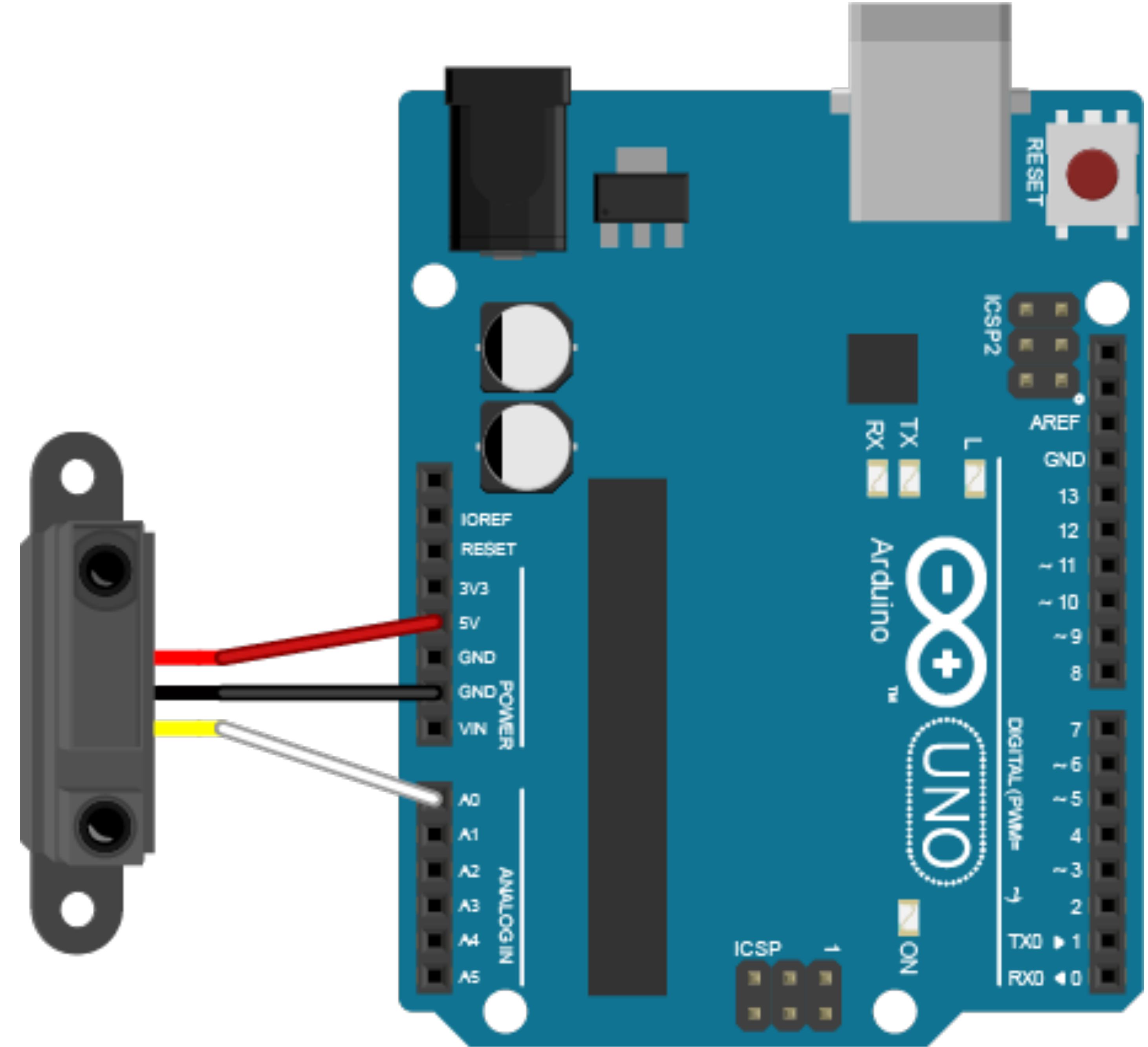
reading analog sensors

Arduino Uno

IR proximity sensor

Code

(File -> Examples -> Basic -> AnalogReadSerial)



INPUT

reading analog sensors

Arduino Uno

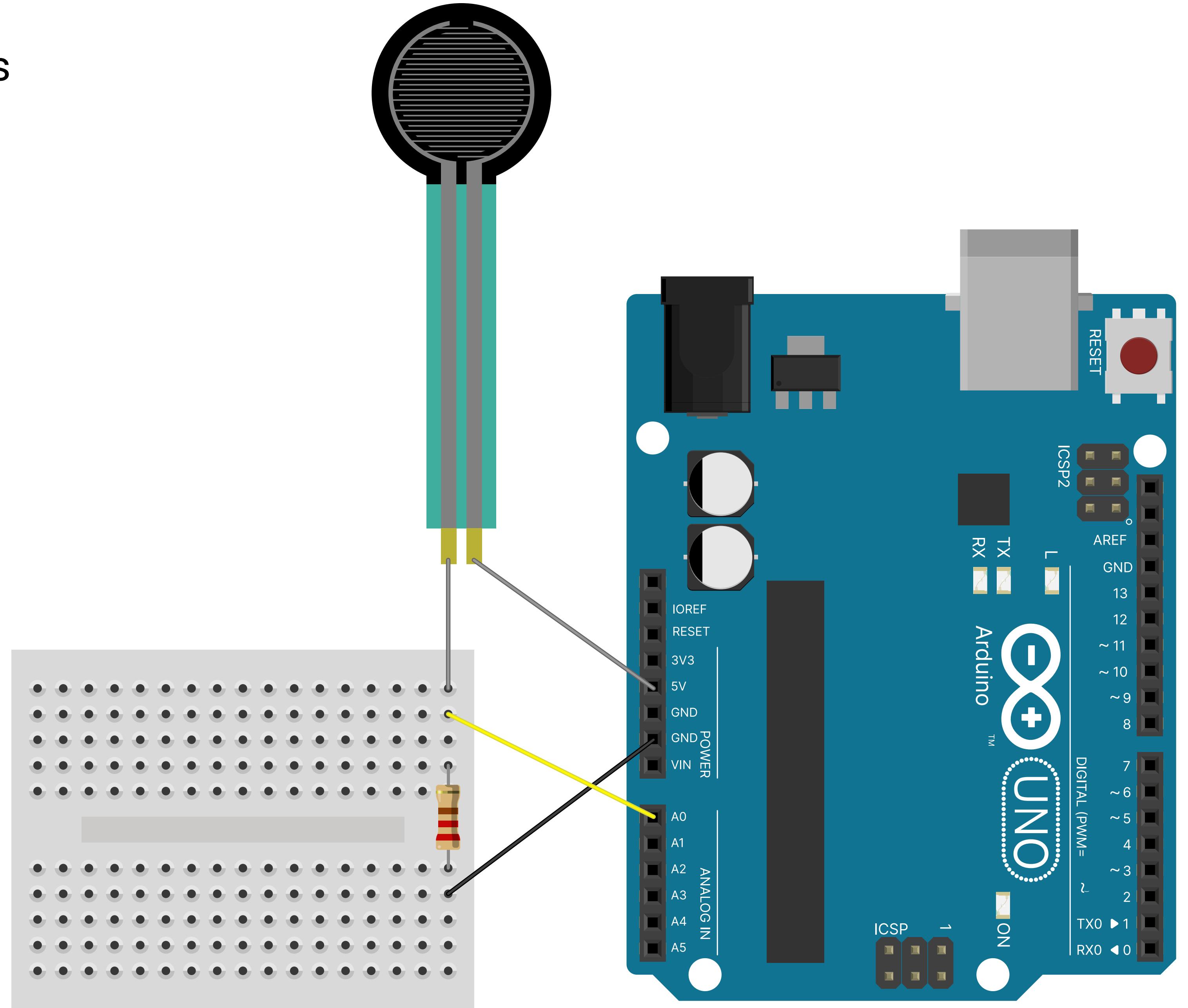
Force touch sensor

10K resistor

Breadboard

Code example

(File -> Examples -> Basic -> AnalogReadSerial)



Code libraries

What is a library?

- reusable code resource
- (interfacing hardware)

How to get a library?

- library manager
- internet (GitHub etc.)

Library documentation

- arduino.cc/reference/en/libraries/
- library website
- online tutorials and guides

FastLED

A library for controlling programmable LEDs

Install with library manager

- sketch -> include library -> manage libraries
- search: FastLED
- install: FastLED by Daniel Garcia, version 3.5.0

