

Arduino Bootcamp : Learning Through Projects

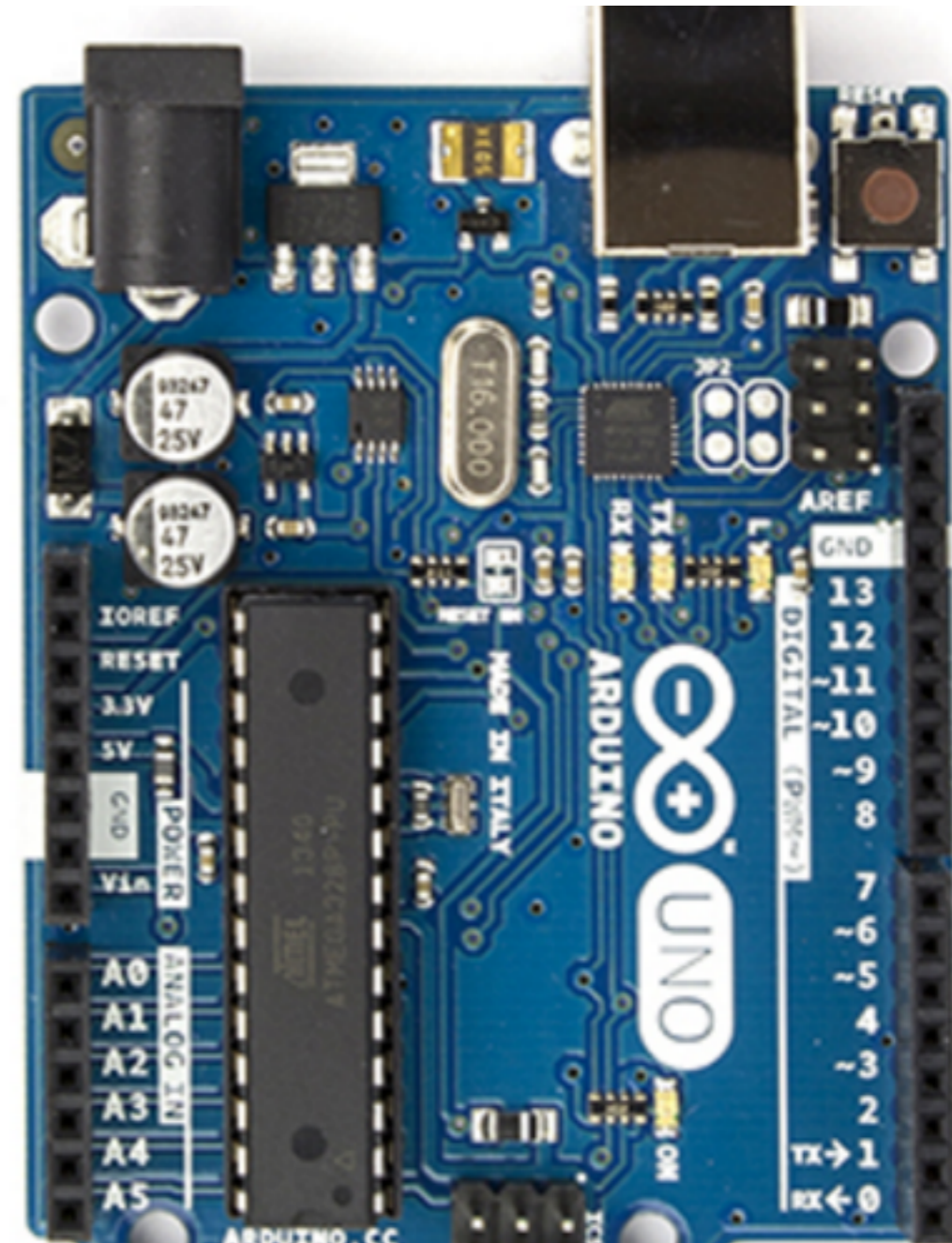
Introduction to Arduino

What is Arduino?

- Open-Source prototyping platform
- Can read inputs (light on a sensor, voltage, temperature change) and turn it into an output (activate a motor, turn on an LED, publish twitter post)
- Easy to use for beginners
- You can tell your board what to do by sending a set of instructions to the micro-controller on the board
- <https://www.arduino.cc/>

Arduino Uno

- Board based on the ATmega328P *micro-controller
- Has 14 digital input/output pins
- 6 analog input pins
- 16 MHz quartz crystal
- 32K flash memory
- USB connection
- DC power jack
- Operating Voltage 5V

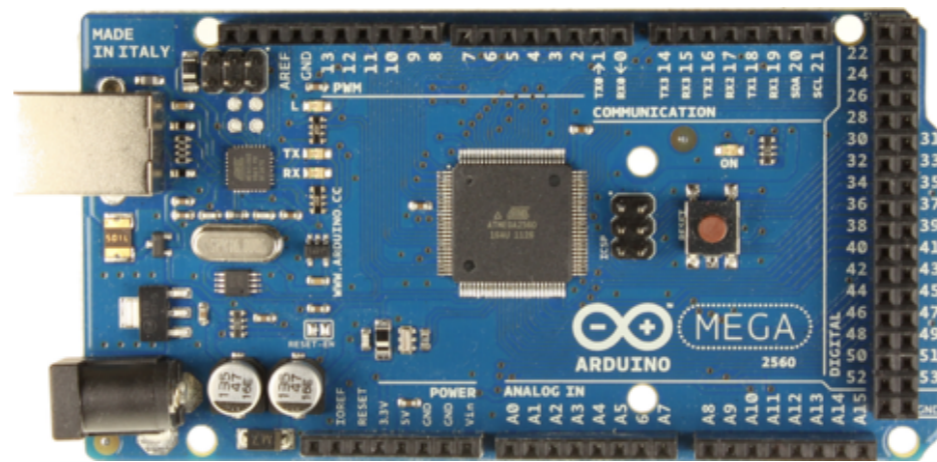


*A micro-controller is a small computer on a single integrated circuit containing a processor core, memory, and programmable input/output peripherals.

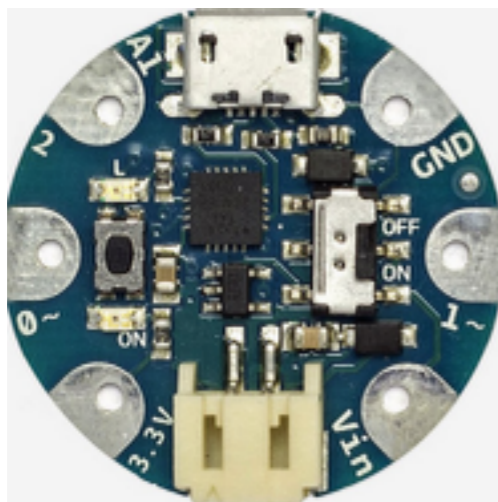
Types of Arduino



Arduino Uno



Arduino Mega



Arduino Gemma



Arduino Yun

<https://www.arduino.cc/en/Main/Products>

Using the Arduino IDE

- In order to upload programs to the Arduino, you need the Arduino IDE (Integrated Development Environment)
- Code can be written in C or C++
- Programs are compiled and uploaded to the on-chip flash memory

Summary

- In this lesson you learnt:
 - What is the Arduino
 - Some characteristics of the Arduino Uno
 - Some of the other flavors of Arduino
 - Became familiar with the Arduino Website
 - How programs get loaded onto Arduino