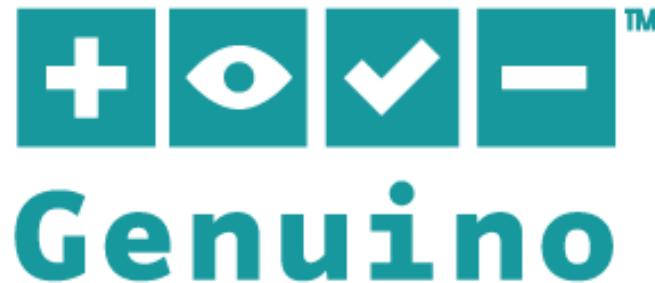


Internet Of Things



The Most Popular Board: Arduino

An Introduction to Arduino/Genuino



Arduino is an open-source prototyping platform based on easy-to-use hardware and software. Arduino boards are able to read inputs (light on a sensor, a finger on a button, or a Twitter message) and turn it into an output (activating a motor, turning on an LED, publishing something online). Arduino was born at the Ivrea Interaction Design Institute as an easy tool for fast prototyping, aimed at students without a background in electronics and programming.



David Cuartielles

Massimo Banzi

G. Martino

Tom Igoe

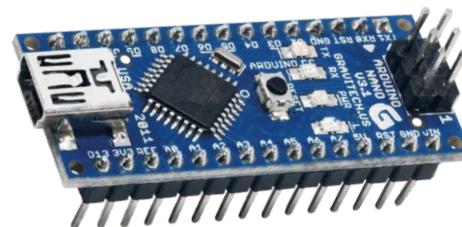
David Mellis

Founding Fathers

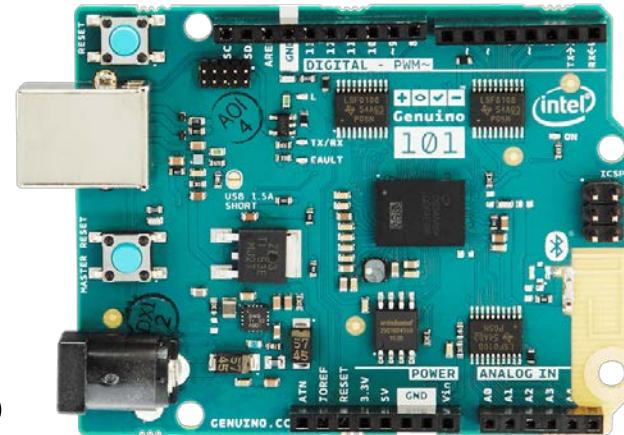
Board & Its Brain



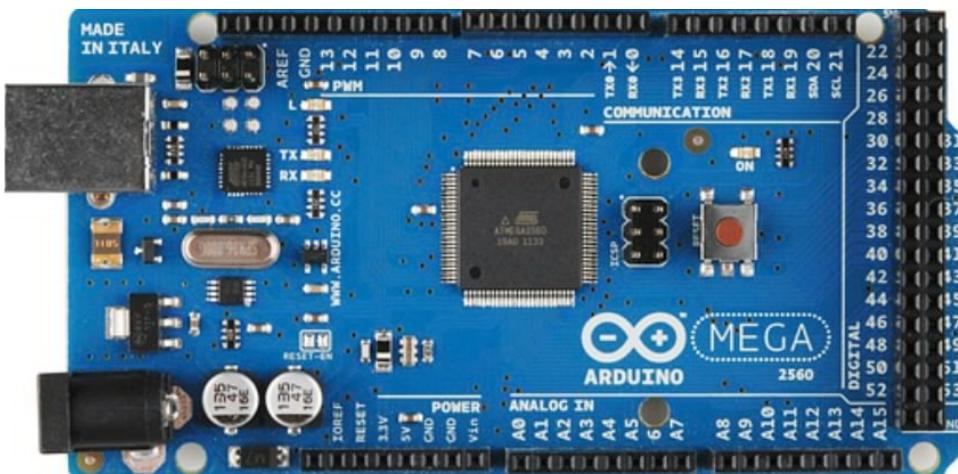
Arduino Uno
ATmega328



Arduino Nano
ATmega328
ATmega168



Arduino 101
Intel Curie



Arduino Mega
ATmega1280
ATmega2560



1.6.0
AN OPEN PROJECT WRITTEN, DEBUGGED AND SUPPORTED
BY MASSIMO BANZI, DAVID CUARTIELLES, TOM IGOE,
GIANLUCA MARTINO AND DAVID MELLIS

BASED ON PROCESSING BY CASEY REAS AND BEN FRY



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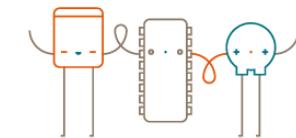
Arduino IDE

The environment is written in Java and based on Processing and other open-source software. This software can be used with any Arduino board.



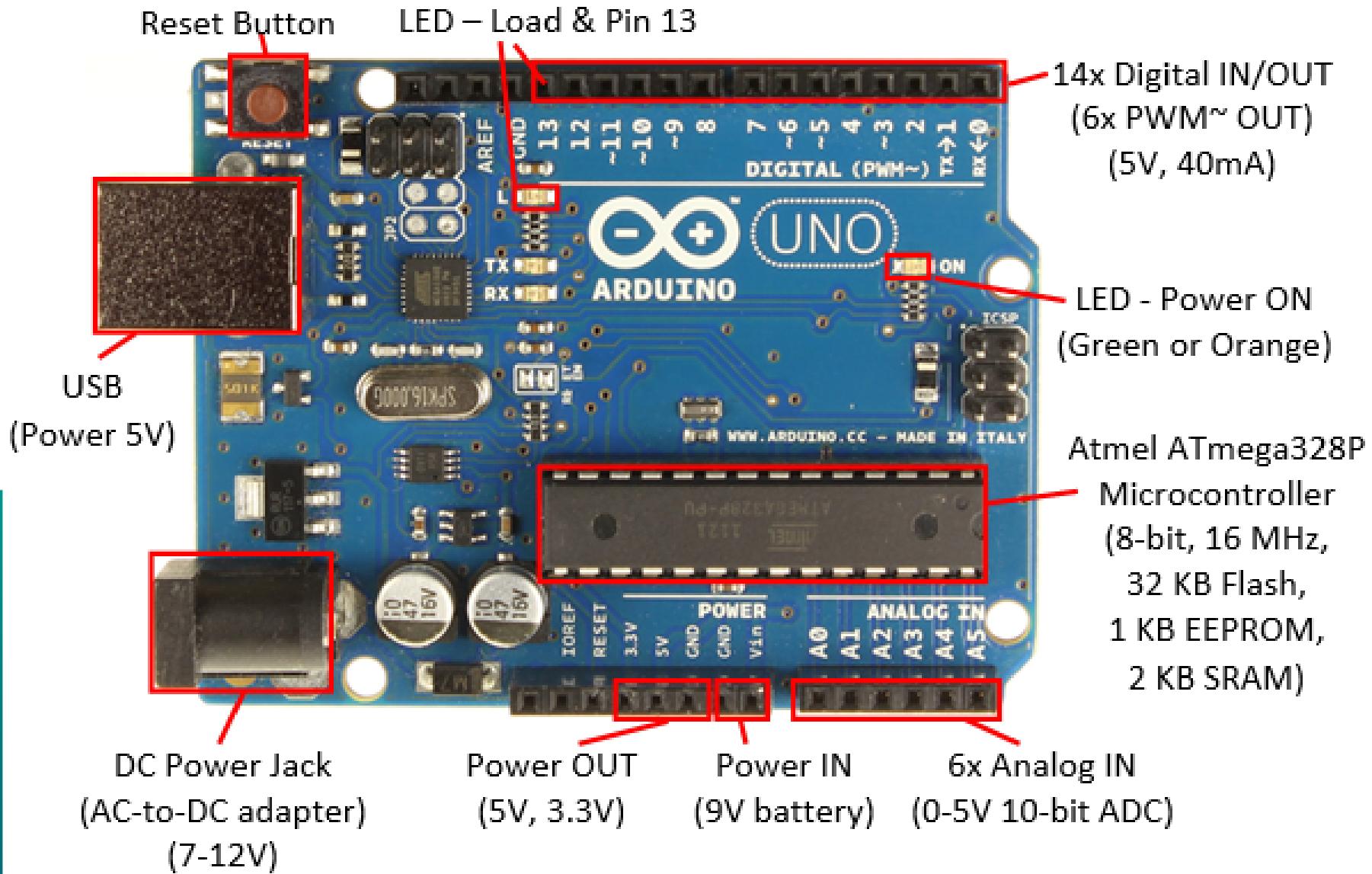
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Arduino Uno

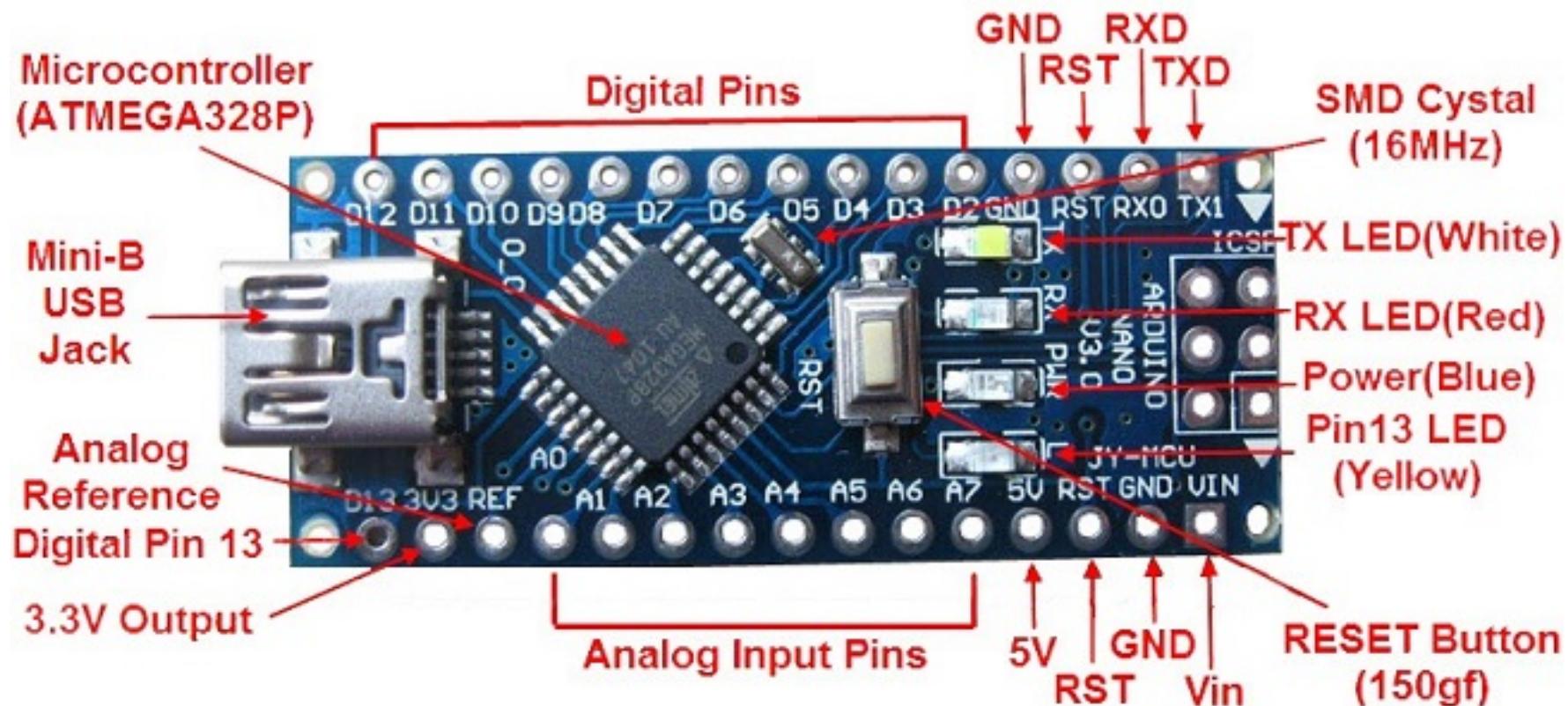




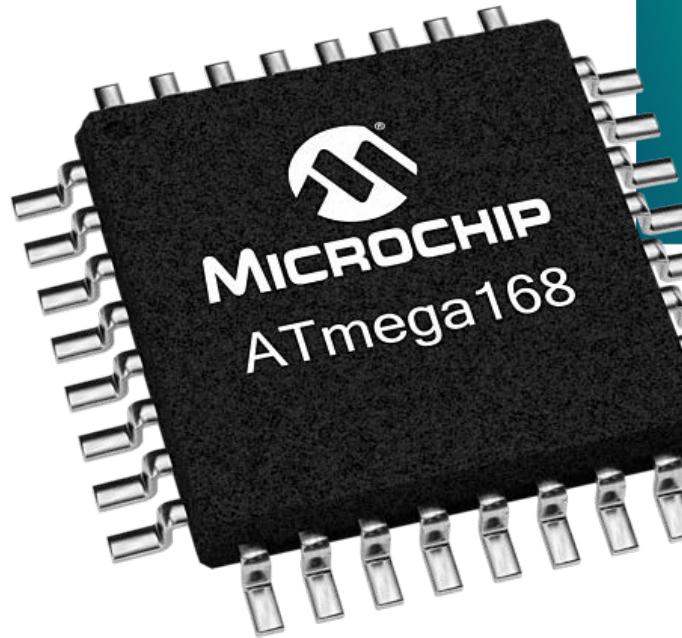
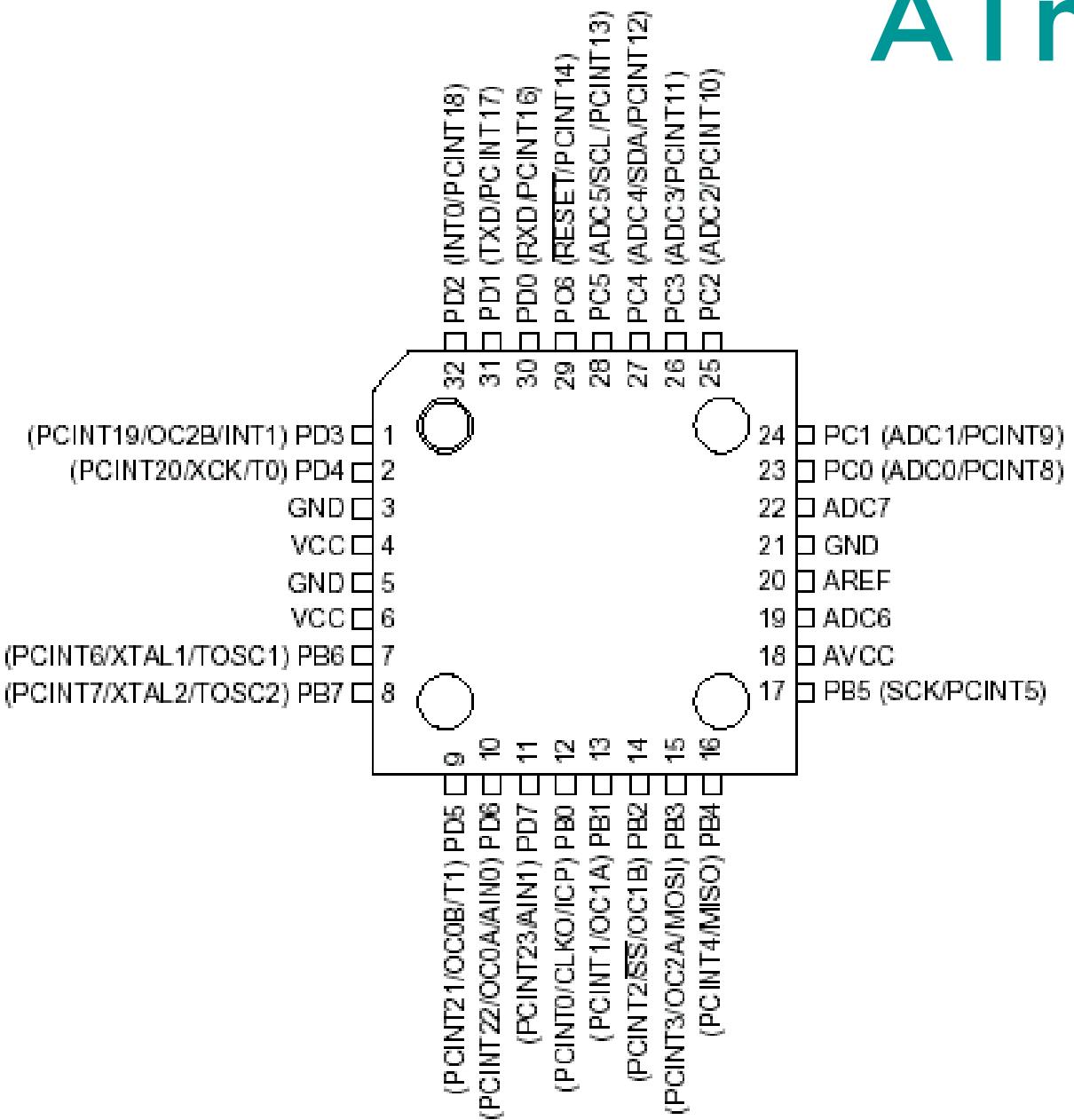
ATmega328P

(PCINT14/RESET) PC6	<input type="checkbox"/>	1	<input type="checkbox"/> PC5 (ADC5/SCL/PCINT13)
(PCINT16/RXD) PD0	<input type="checkbox"/>	2	<input type="checkbox"/> PC4 (ADC4/SDA/PCINT12)
(PCINT17/TXD) PD1	<input type="checkbox"/>	3	<input type="checkbox"/> PC3 (ADC3/PCINT11)
(PCINT18/INT0) PD2	<input type="checkbox"/>	4	<input type="checkbox"/> PC2 (ADC2/PCINT10)
(PCINT19/OC2B/INT1) PD3	<input type="checkbox"/>	5	<input type="checkbox"/> PC1 (ADC1/PCINT9)
(PCINT20/XCK/T0) PD4	<input type="checkbox"/>	6	<input type="checkbox"/> PC0 (ADC0/PCINT8)
VCC	<input type="checkbox"/>	7	<input type="checkbox"/> GND
GND	<input type="checkbox"/>	8	<input type="checkbox"/> AREF
(PCINT6/XTAL1/TOSC1) PB6	<input type="checkbox"/>	9	<input type="checkbox"/> AVCC
(PCINT7/XTAL2/TOSC2) PB7	<input type="checkbox"/>	10	<input type="checkbox"/> PB5 (SCK/PCINT5)
(PCINT21/OC0B/T1) PD5	<input type="checkbox"/>	11	<input type="checkbox"/> PB4 (MISO/PCINT4)
(PCINT22/OC0A/AIN0) PD6	<input type="checkbox"/>	12	<input type="checkbox"/> PB3 (MOSI/OC2A/PCINT3)
(PCINT23/AIN1) PD7	<input type="checkbox"/>	13	<input type="checkbox"/> PB2 (SS/OC1B/PCINT2)
(PCINT0/CLK0/CP1) PB0	<input type="checkbox"/>	14	<input type="checkbox"/> PB1 (OC1A/PCINT1)

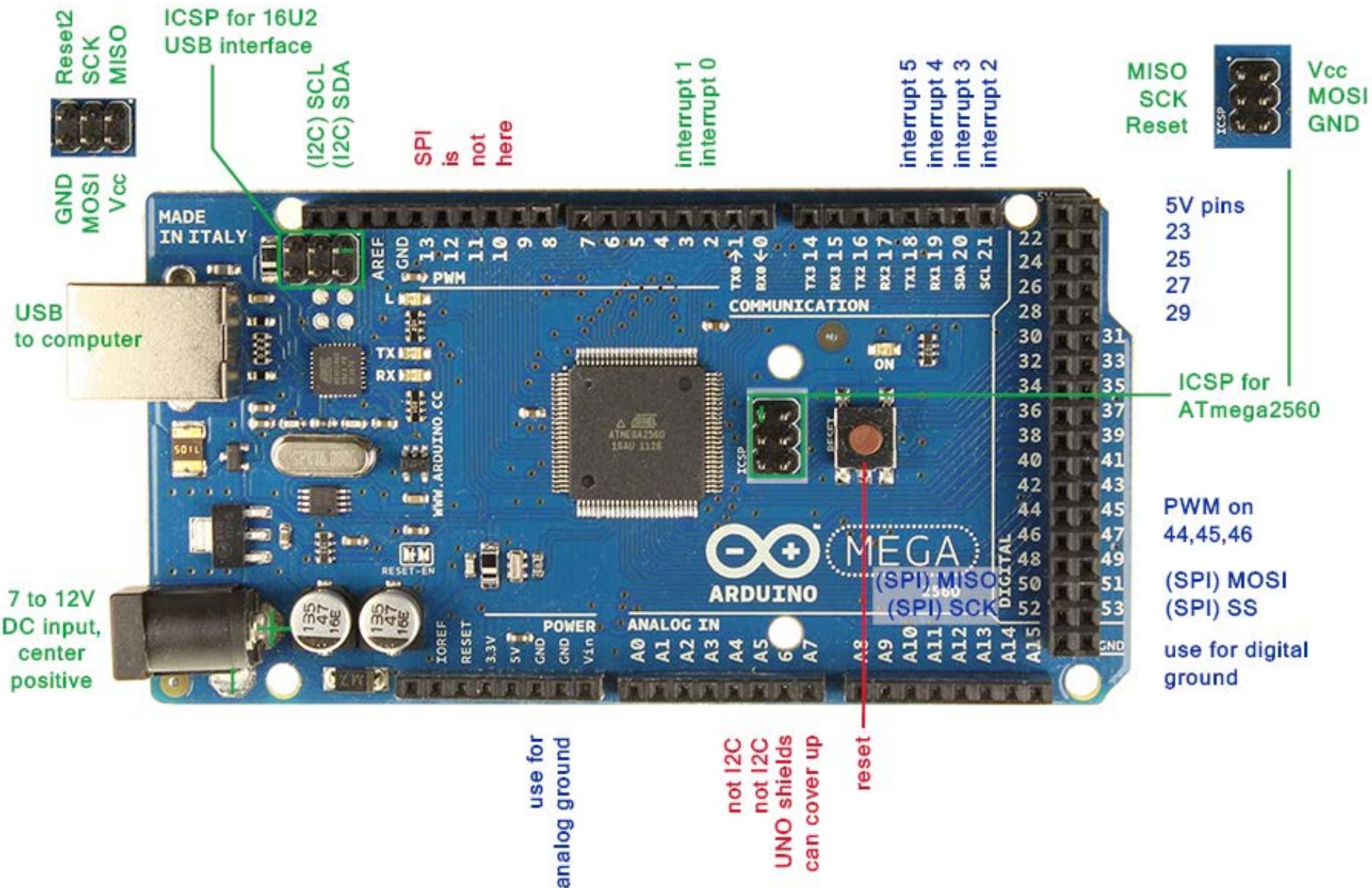
Arduino Nano



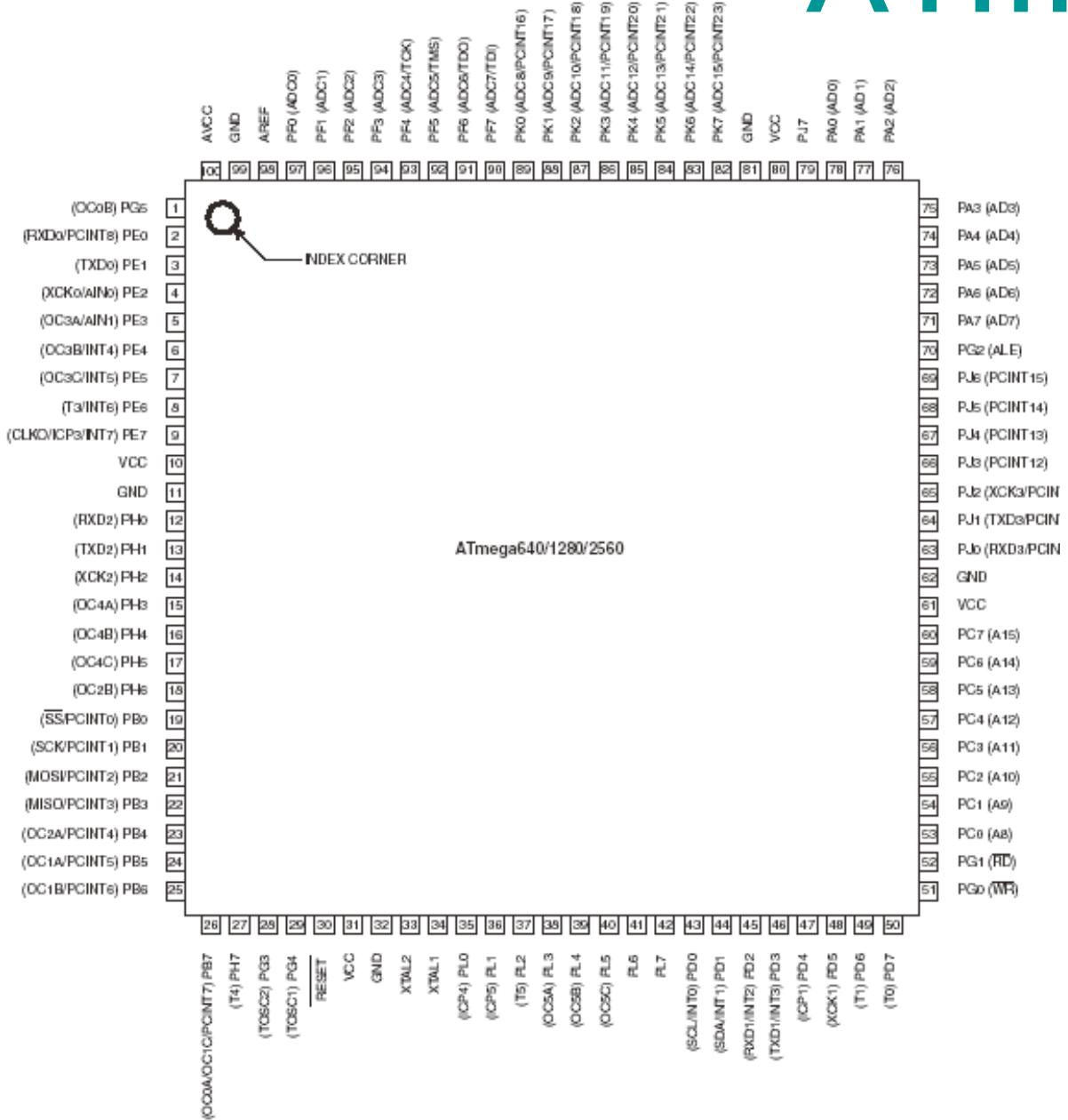
ATmega168



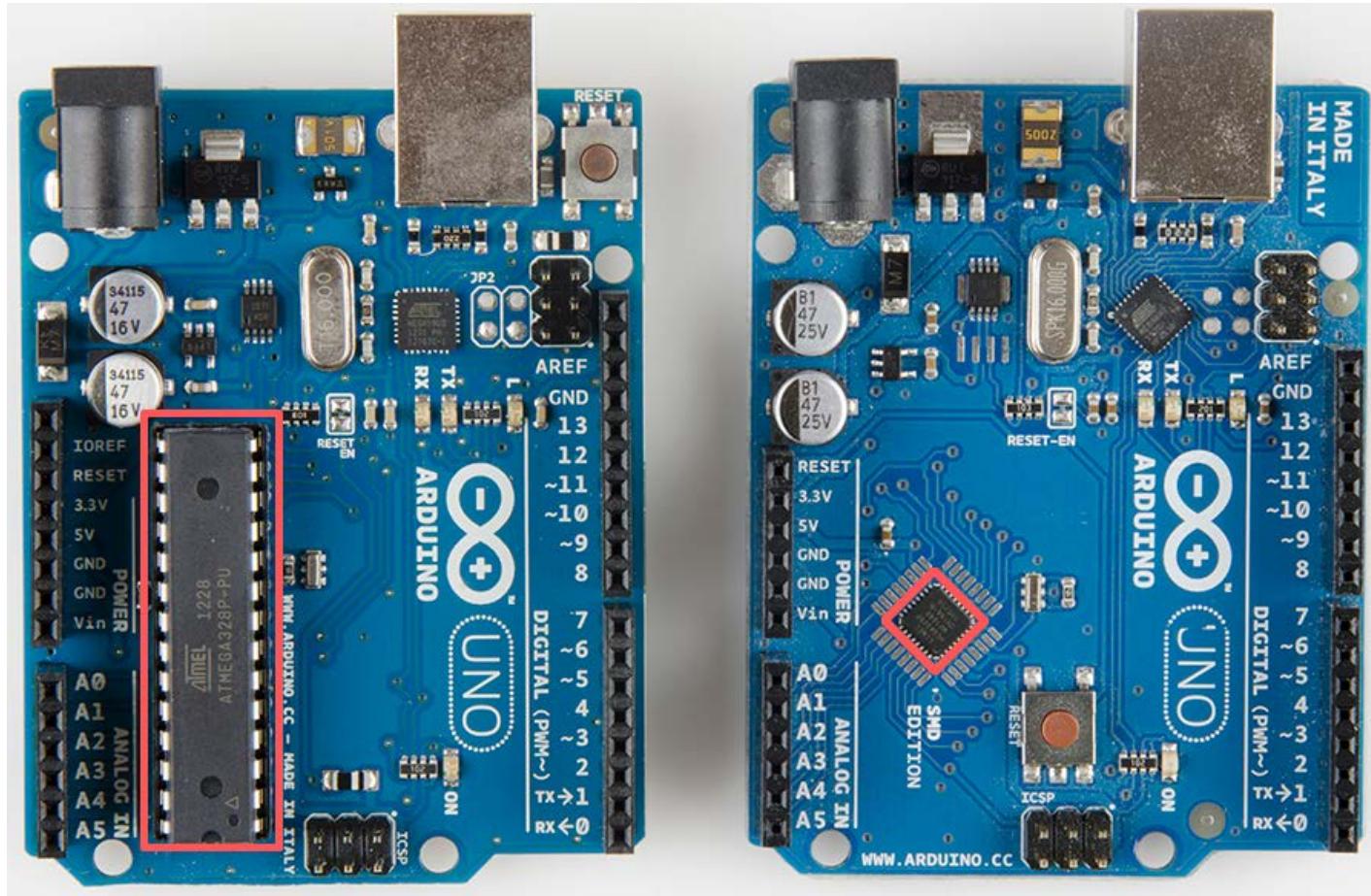
Arduino Mega



ATmega2560



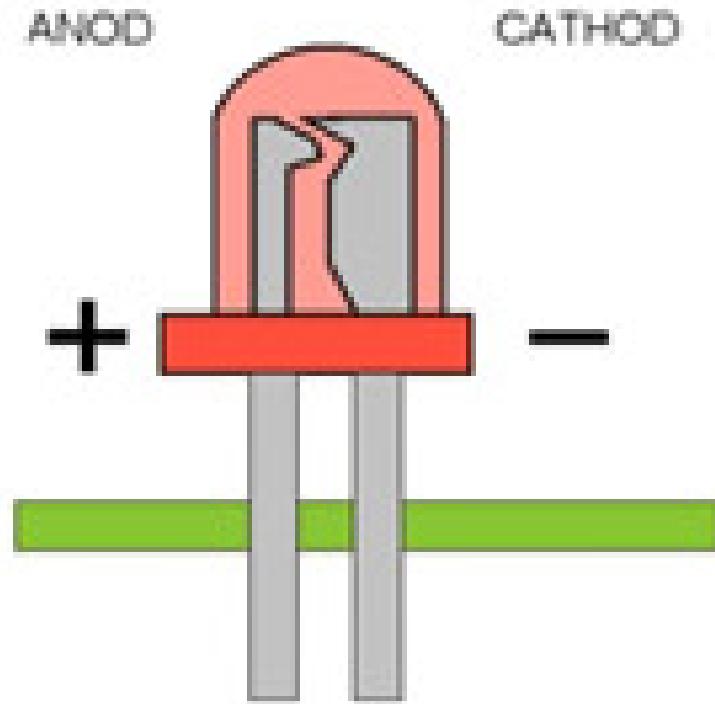
PTH vs SMD



Plated Through Hole vs Surface Mount Device

PTH vs SMD

PTH



SMD

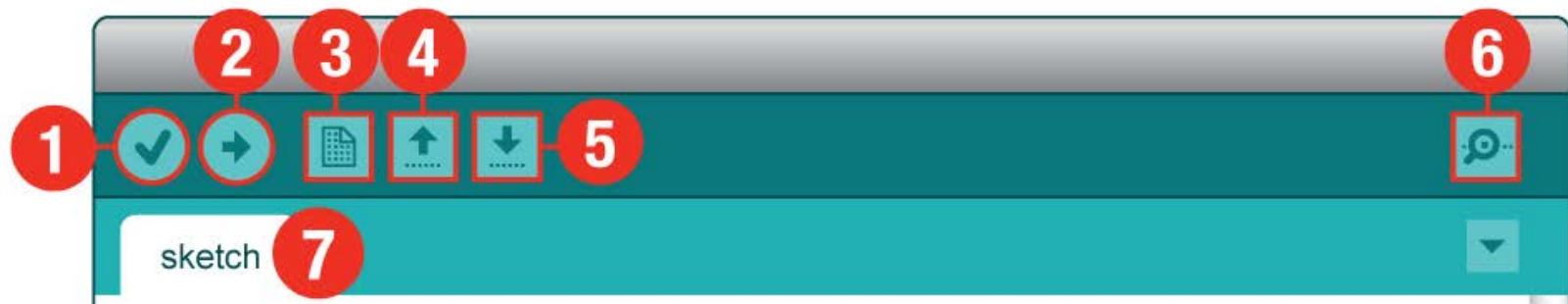


Plated Through Hole vs Surface Mount Device



Getting Started With Arduino IDE

1. Install USB Driver (if necessary)
2. Install Arduino IDE
3. Happy Arduino-ing!



Arduino Uno on COM23

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