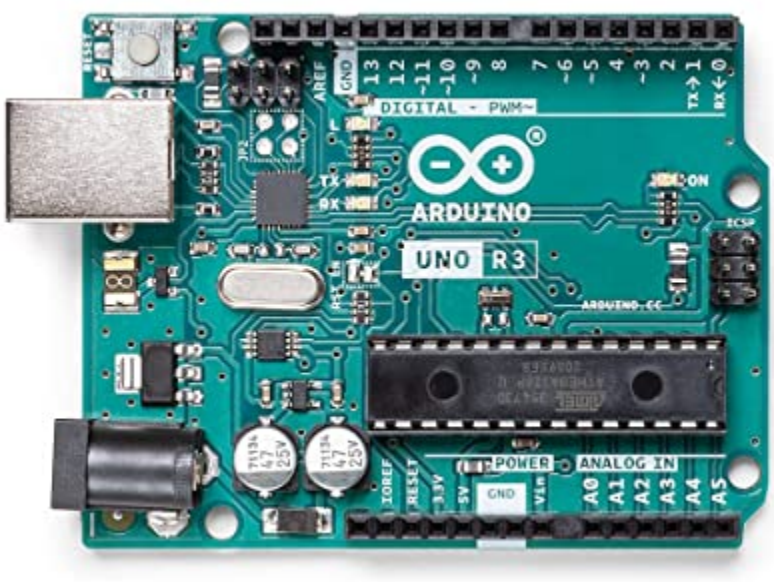
Arduino microcontroller board.

About atmega328



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22/5/2022

Independent study

INTRODUCTION

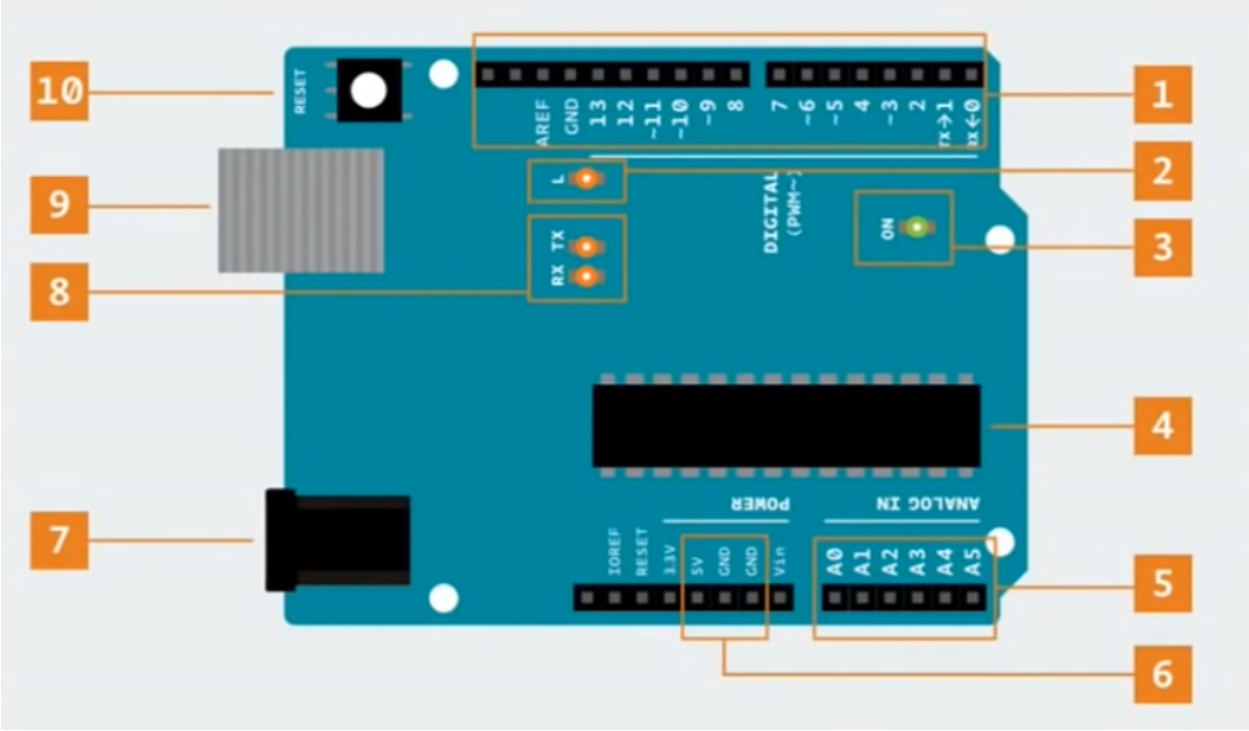
This document will include information about the arduino board atmega328 parts and electronics in general.

Technical specifications: (ATmega328, Operating voltages: 5V, 7-12v, 14d pins 6PWM pins, 6 analog pins, 40mA DC, 32KB flash memory, 2KB SRAM, 1KB EEPROM, 16MHZ).

MATERIALS

1. FreeCodeCamp course |id = zJ-LqeX_fLU
2. Tinkercad simulator

Diagram of arduino atmega328 board.



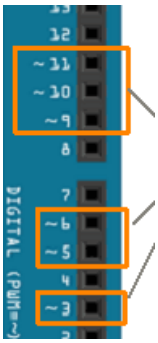
This is a diagram of arduino boards which shows the typical components which were used to create the arduino board (atmega328).

1) Digital pins.

Starting with the digital pins, the curvy sign behind specific pins indicates that the

pin supports pwm capability.

For example the following:



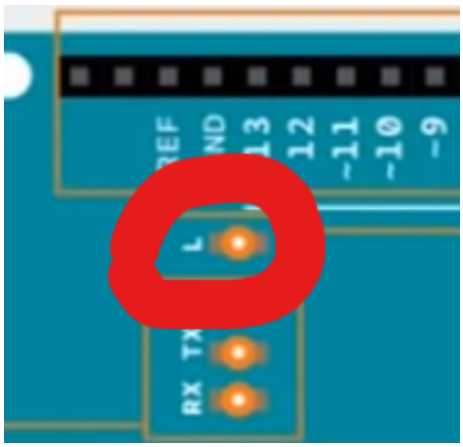
11 and 10 and 9 and 6 and 5 and 3 pins support pwm because of the indicator curvy string.

This pins also take digital input and output it to some of the board’s

Components.

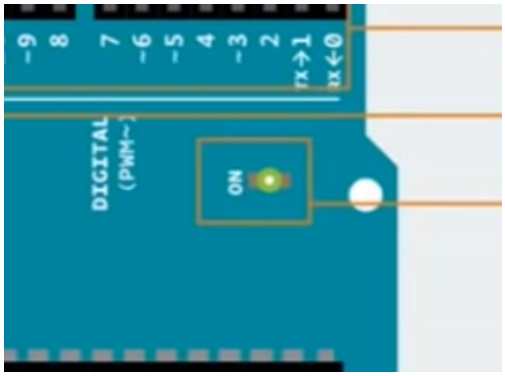
2) L LED.

The following led indicates to the pin 13 status by default, it turns on when the pin goes high and turns back off when it goes low.



The "L" LED blinking means pin 13 is being alternately turned HIGH and LOW. This is normal with a new board, it's just some code that shows everything is working.

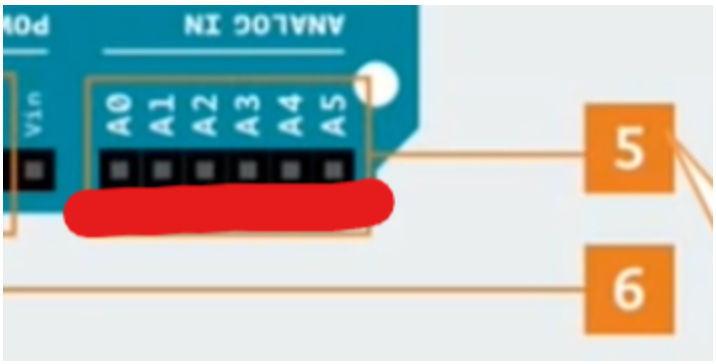
4) The power LED.



The power LED is simply an indicator that the board is currently receiving power.

It’s usually a code that the board is ready to function.

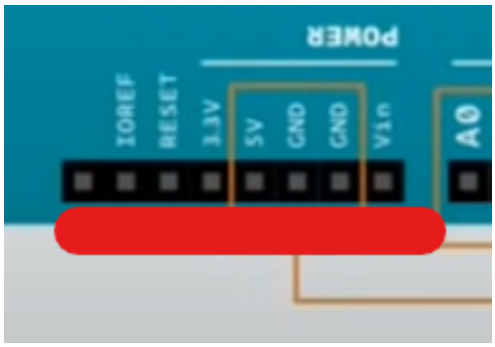
5) Analoges pins



There are 6 analog pins on the atmega328 board number from a0 to a5.

Any analog sensor could be connected on this pin.

6) Power pins.



It is used to power components on the circuit board, any component can be reached using the power panel.

But it’s important to make sure of the current we implementing in the power panel.

7) Direct current supplier (DC JACK)

It's used to connect an external power source (Does not accept alternative current).

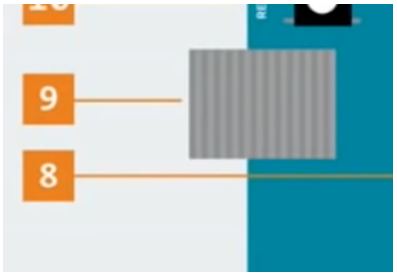
The acceptable power voltage is 7 - 12 voltage.

8) TX and RX LED

Rx means receive and TX means transmet, whenever this LEDS is blinking it means the circuit board is communicating with external resources.

9) Universal bus connector (USB-JACK)

It is simply used to connect the circuit board to another universal device.



10) Reset button.

Used to reload the entire code which is running on this board, but unlike what the name says it does not clean the board's memory.