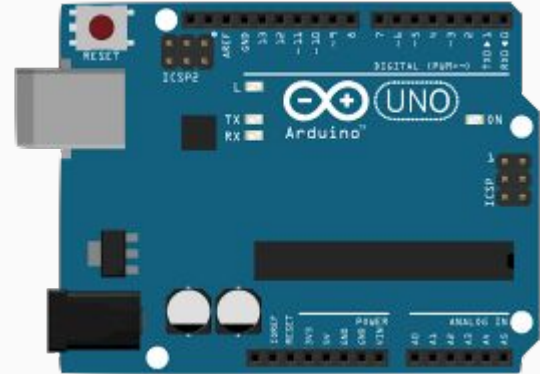




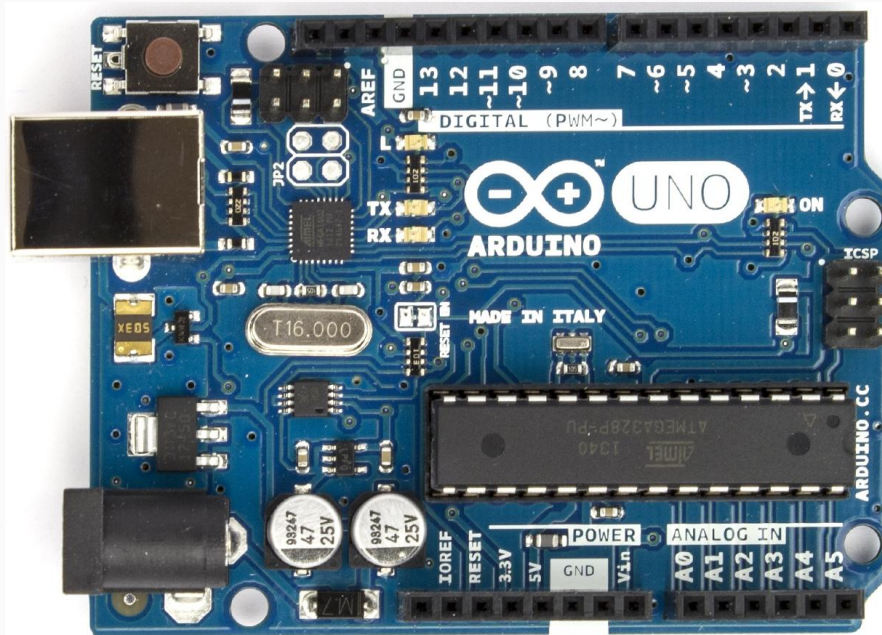
Arduino + Bluetooth

Lucas Cavalcanti, Gabriel Bandeira
{lhcs, gmb} @cin.ufpe.br

O que estamos fazendo aqui?

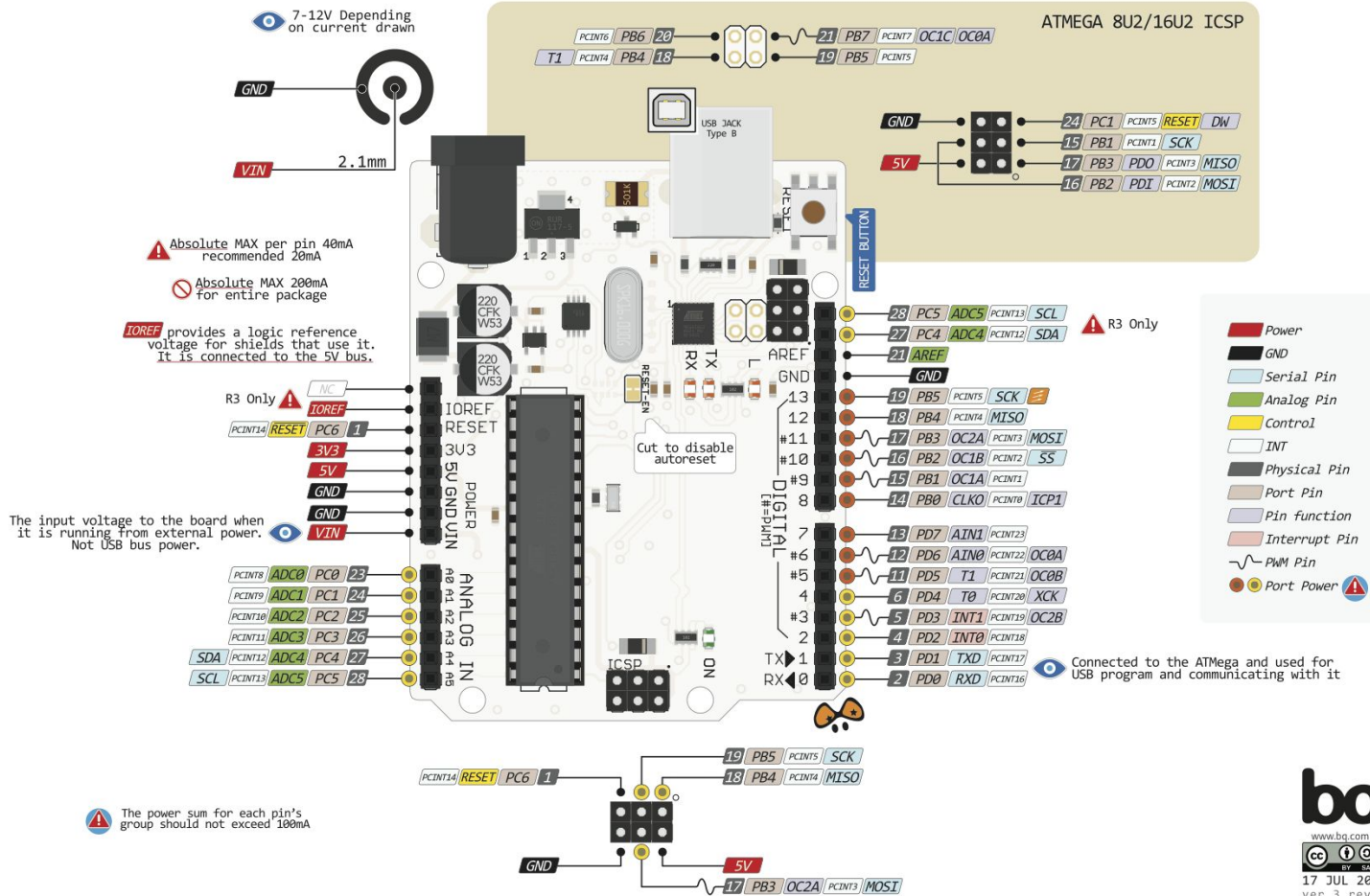


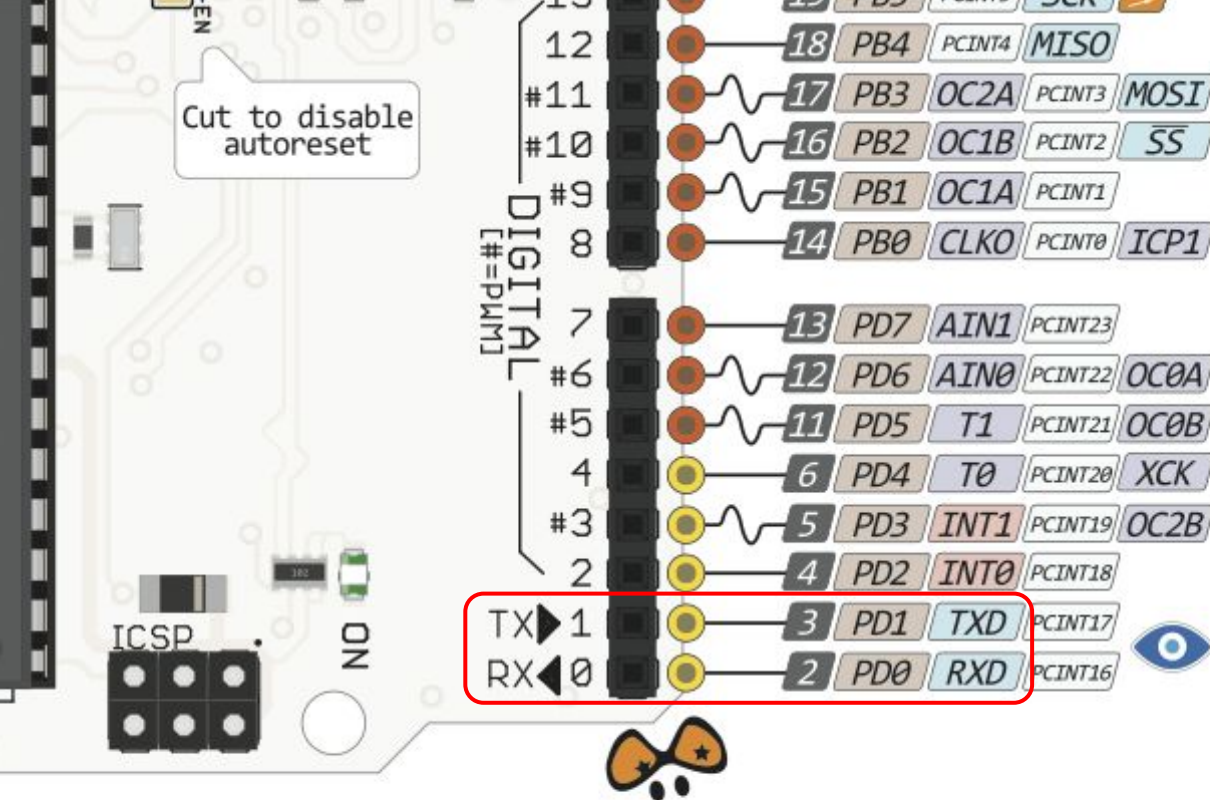
O que é Arduino?



```
/*  
  Blink  
  Turns on an LED on for one second, then off for one second  
  
  This example code is in the public domain.  
  */  
  
void setup() {  
  // initialize the digital pin as an output.  
  // Pin 13 has an LED connected on most Arduino boards:  
  pinMode(13, OUTPUT);  
}  
  
void loop() {  
  digitalWrite(13, HIGH); // set the LED on  
  delay(1000);            // wait for a second  
  digitalWrite(13, LOW);  // set the LED off  
  delay(1000);            // wait for a second  
}
```

UNO **PINOUT**

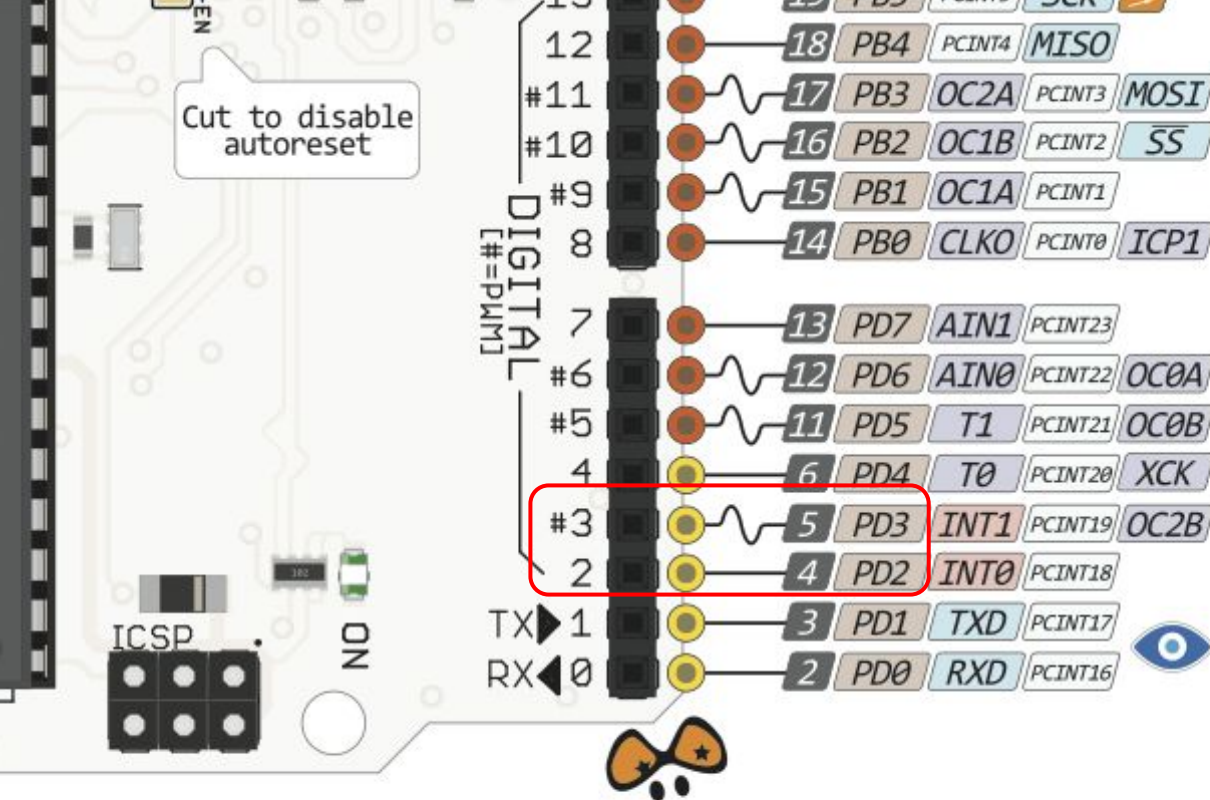




- Analog Pin
- Control
- INT
- Physical Pin
- Port Pin
- Pin function
- Interrupt Pin
- PWM Pin
- Port Power



Connected to the ATmega and used for USB program and communicating with it



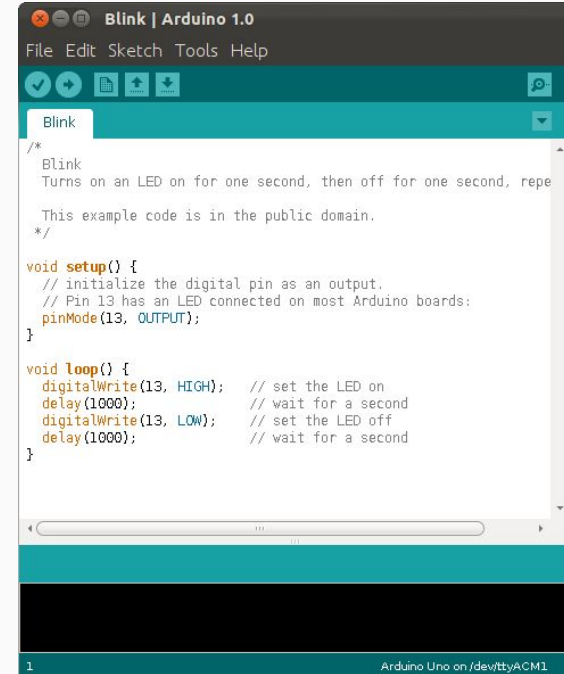
- Analog Pin
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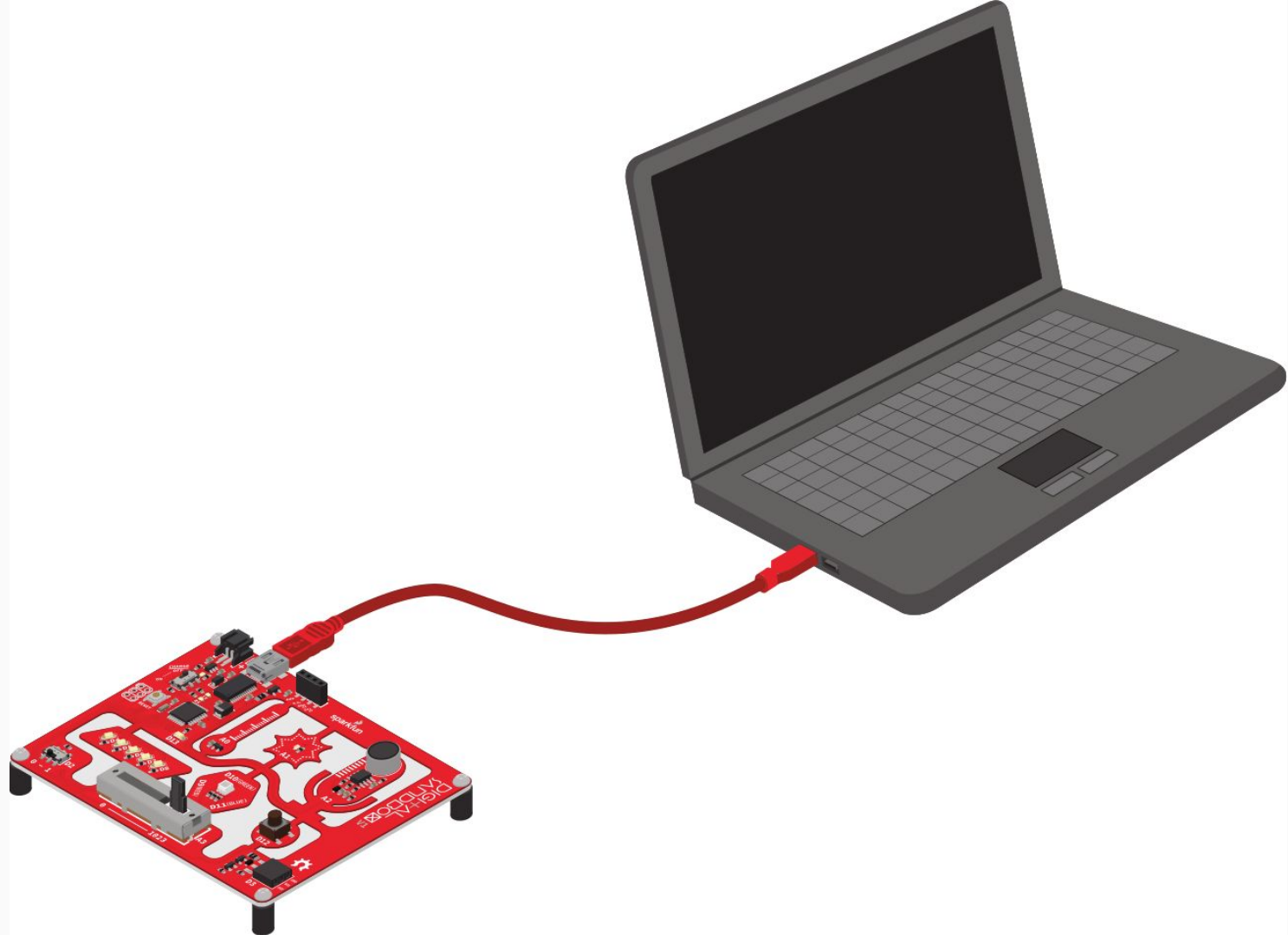


Connected to the ATmega and used for USB program and communicating with it

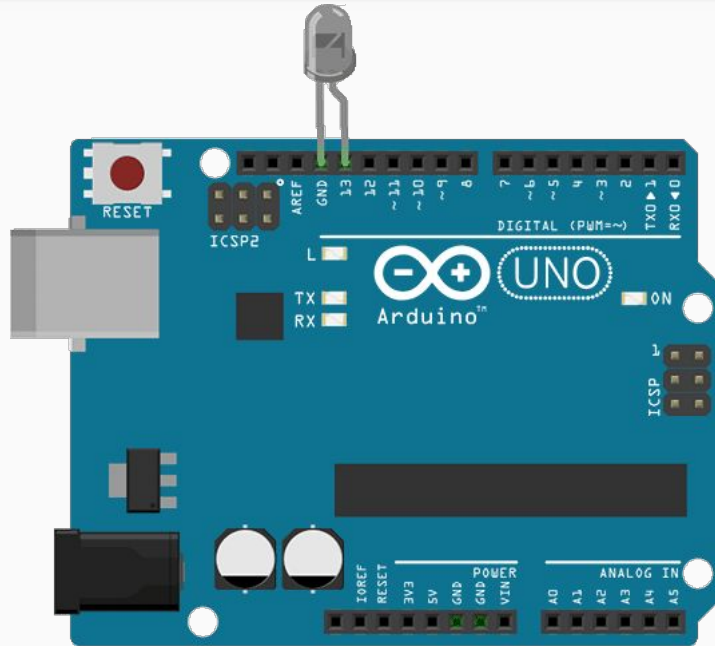
Instalando a IDE da Arduino

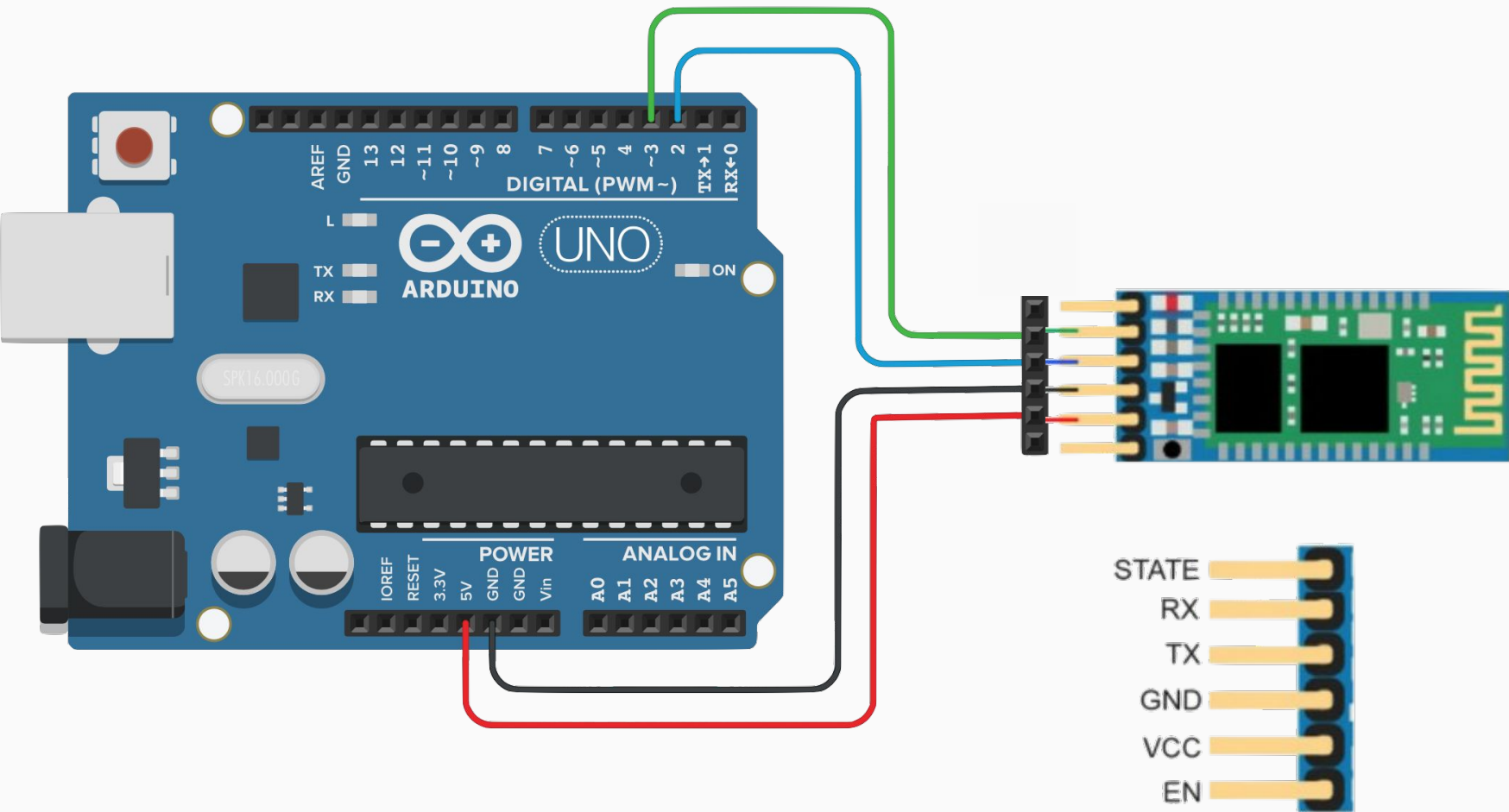
- <https://www.arduino.cc/en/Main/Software>
- `$ sudo apt-get install arduino`





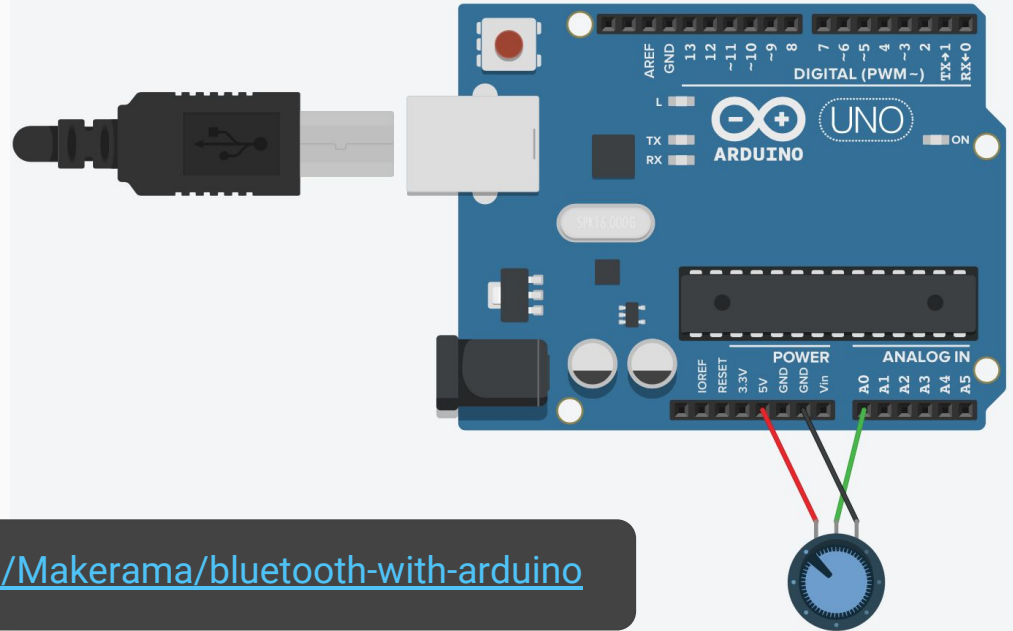
Hello World





Stream de Dados

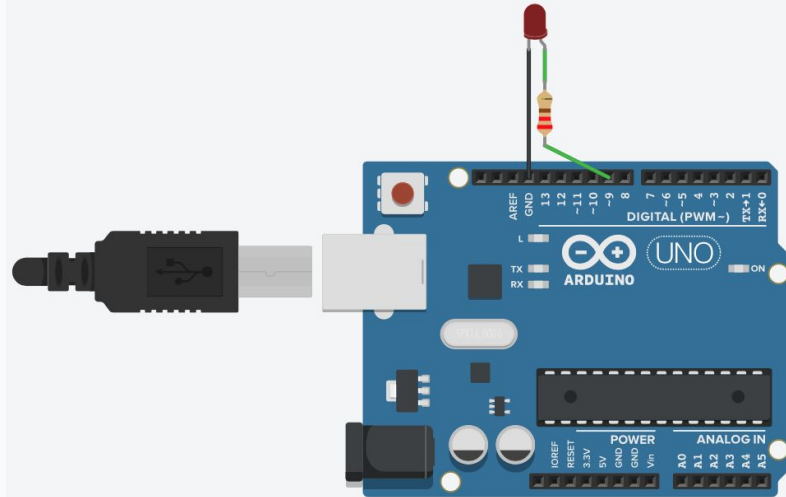
- Montar potenciômetro na porta A0.
- Capturar leituras da porta A0.
- Enviar via Bluetooth para celular.



<https://github.com/Makerama/bluetooth-with-arduino>

Controlando um LED

- Conectar um LED na porta 9.
- Colocar resistor de 220 Ω .
- Receber valor de 0 ou 1 do Bluetooth.
- 0 Desliga - 1 Liga.



<https://github.com/Makerama/bluetooth-with-arduino>

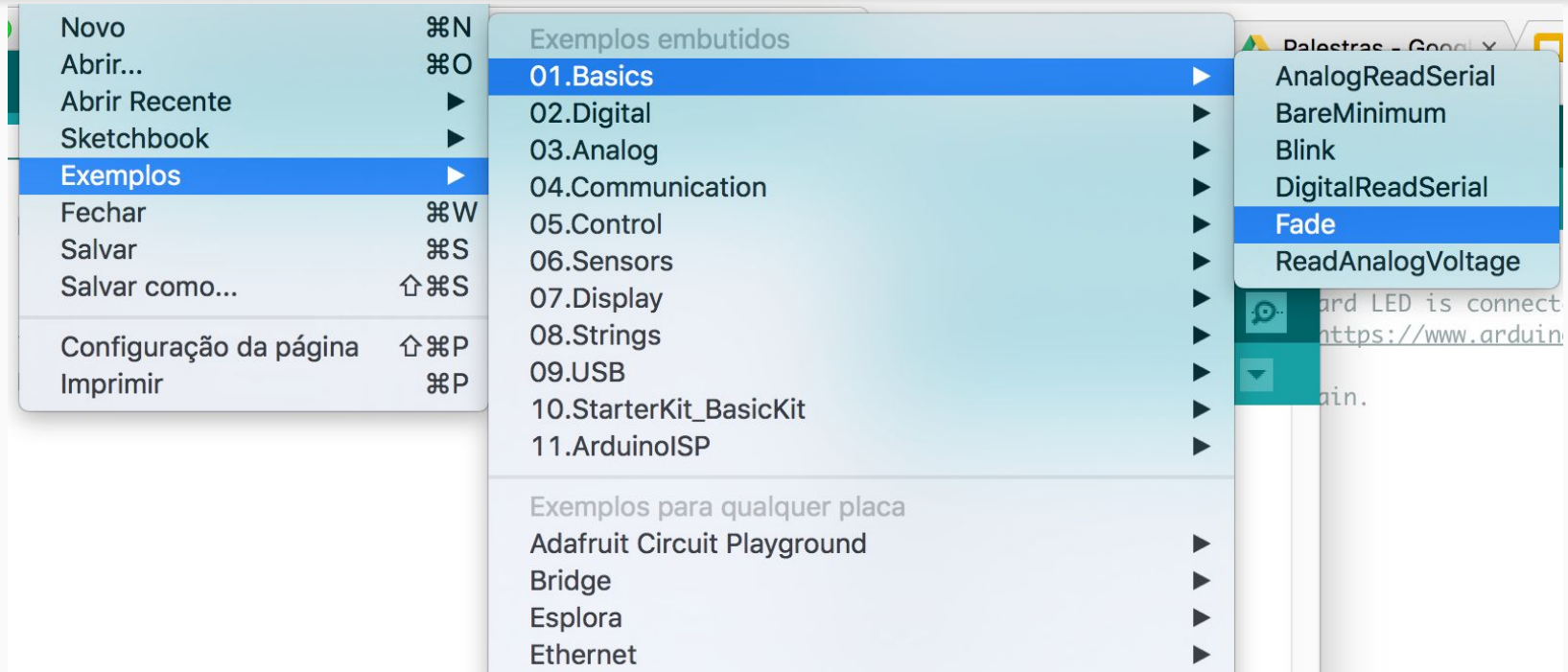
PWM?



Duty Cycle: 0%

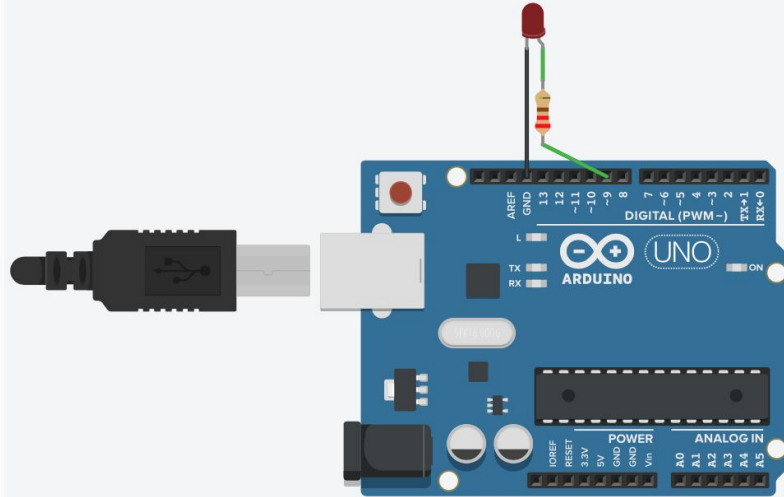


Abrir Exemplo com PWM



Intensidade de um LED

- Conectar um LED na porta 9.
- Colocar resistor de 220 Ω .
- Receber valor de 0 a 255 do Bluetooth.



<https://github.com/Makerama/bluetooth-with-arduino>

Obrigado!



MAKERAMA



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