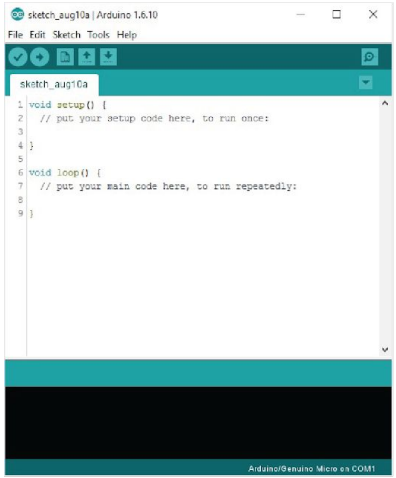
Intro to Arduino

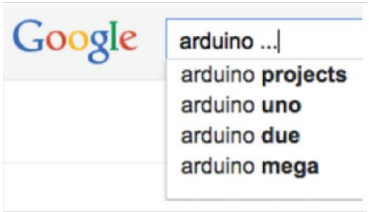
Day 1

What is Arduino?



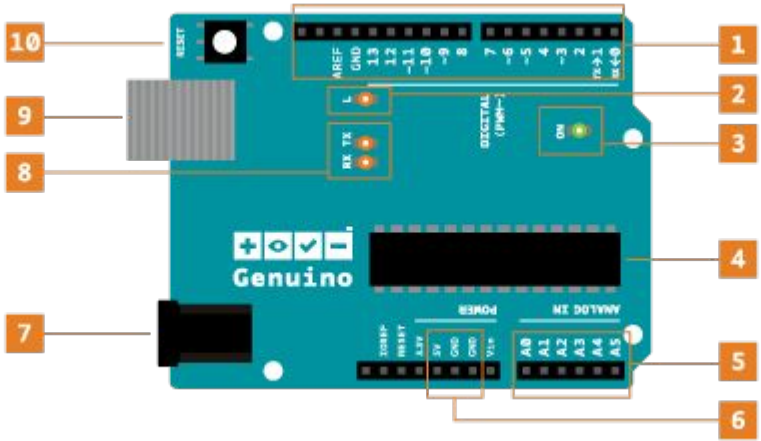
Software
IDE & Language

Hardware
Board & Components



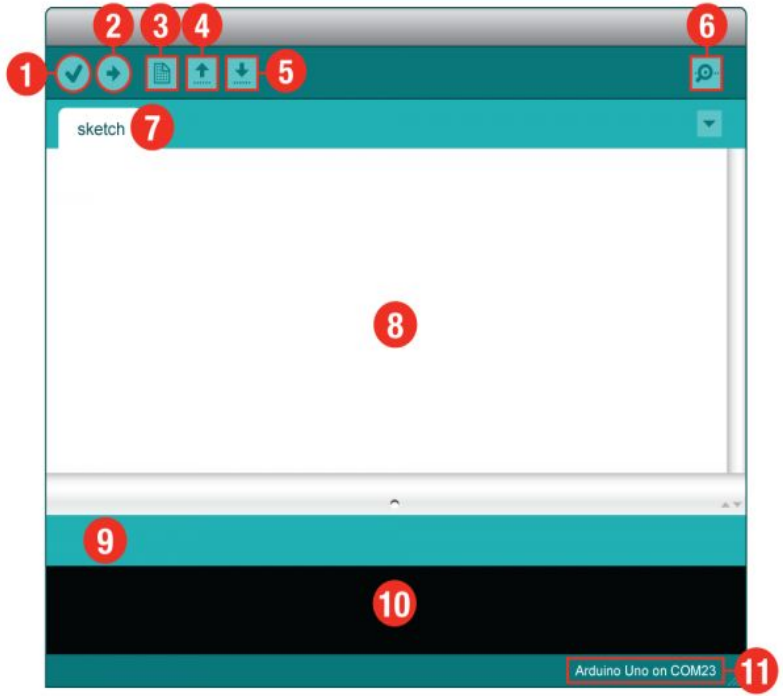
Community
THE Internet

Arduino Board



1. Digital Pins
2. Pin 13 LED 💡
3. Power LED
4. ATmega microcontroller (❤️ of the board)
5. Analog Pins
6. GND and 5V pins
7. Power connector
8. TX and RX LEDs.
9. USB port
10. Reset button

Arduino IDE

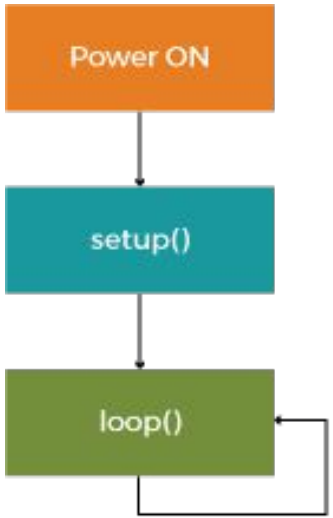


1. Verify
2. Upload
3. New
4. Open
5. Save
6. Serial Monitor
7. Sketch Name
8. Code Area
9. Message Area
10. Text Console
11. Board and Serial Port

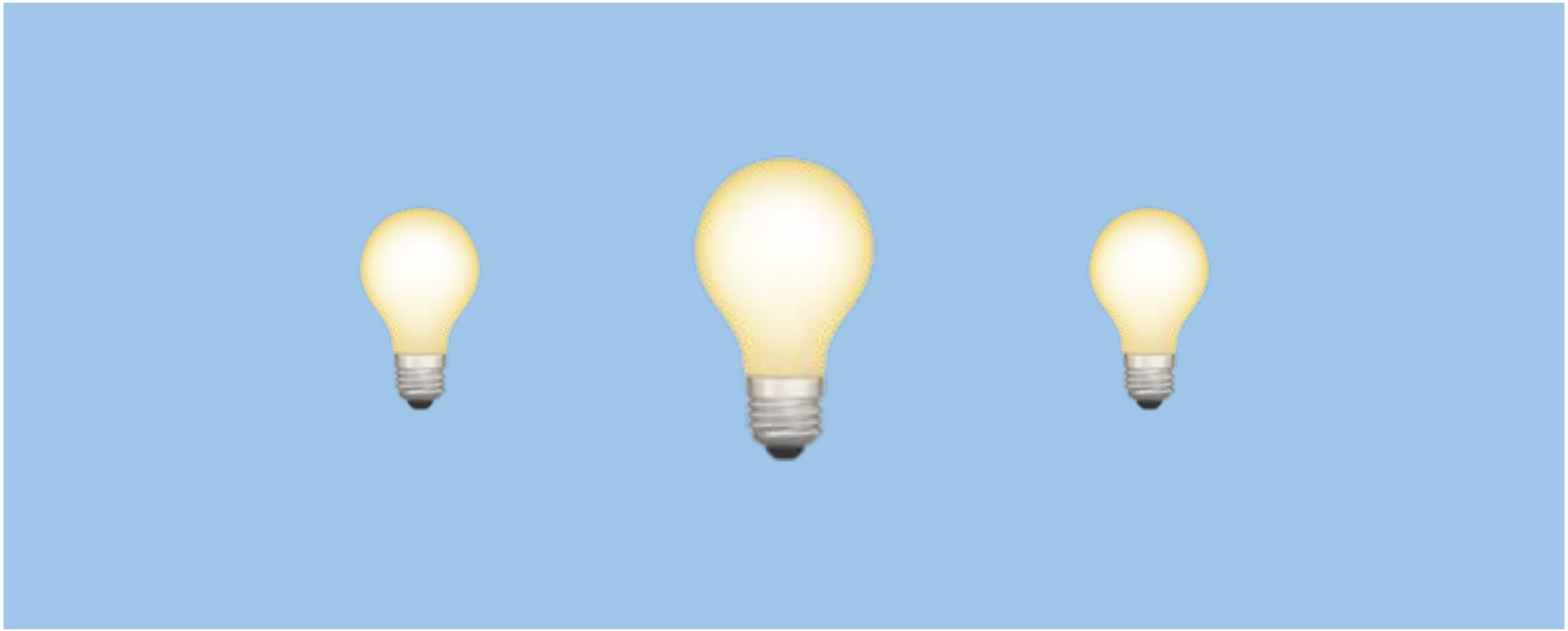
Anatomy of a sketch

Two main functions:

- setup()
- loop()



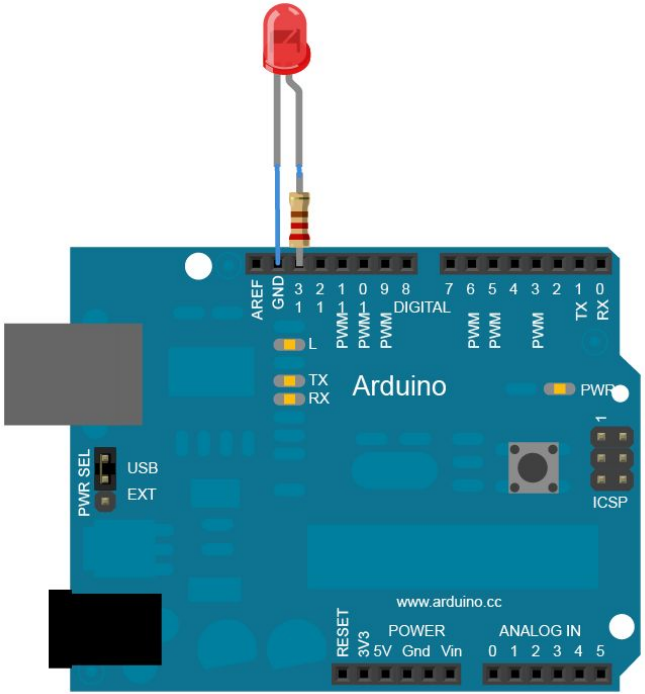
First Arduino Sketch: Blink

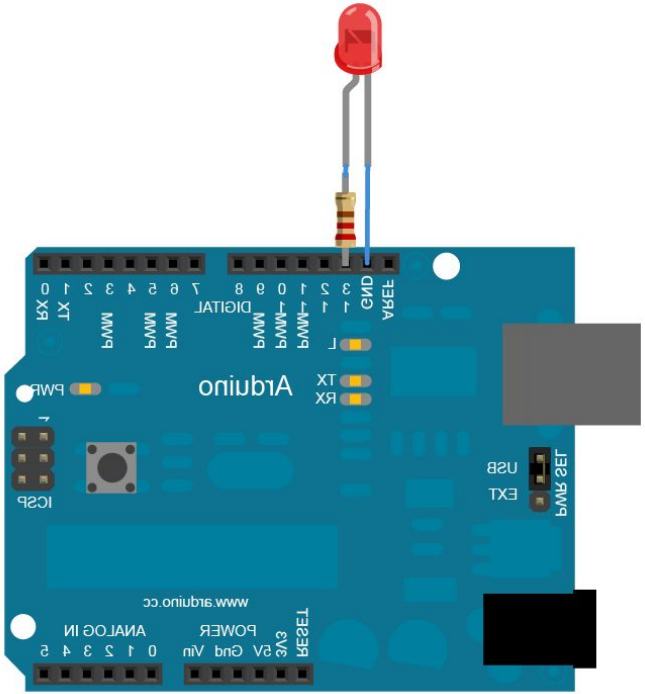


Our first sketch: Blink

1. Open the IDE
2. Go to File > Examples > 01.Basics > Blink
3. Connect your Arduino board with the USB cable
4. Go to Tools > Board > Arduino/Genuino Uno
5. Go to Tools > Port and select the usb port your Arduino is connected to
6. Upload the sketch and see your Arduino blinking

Coding Challenge nr 1

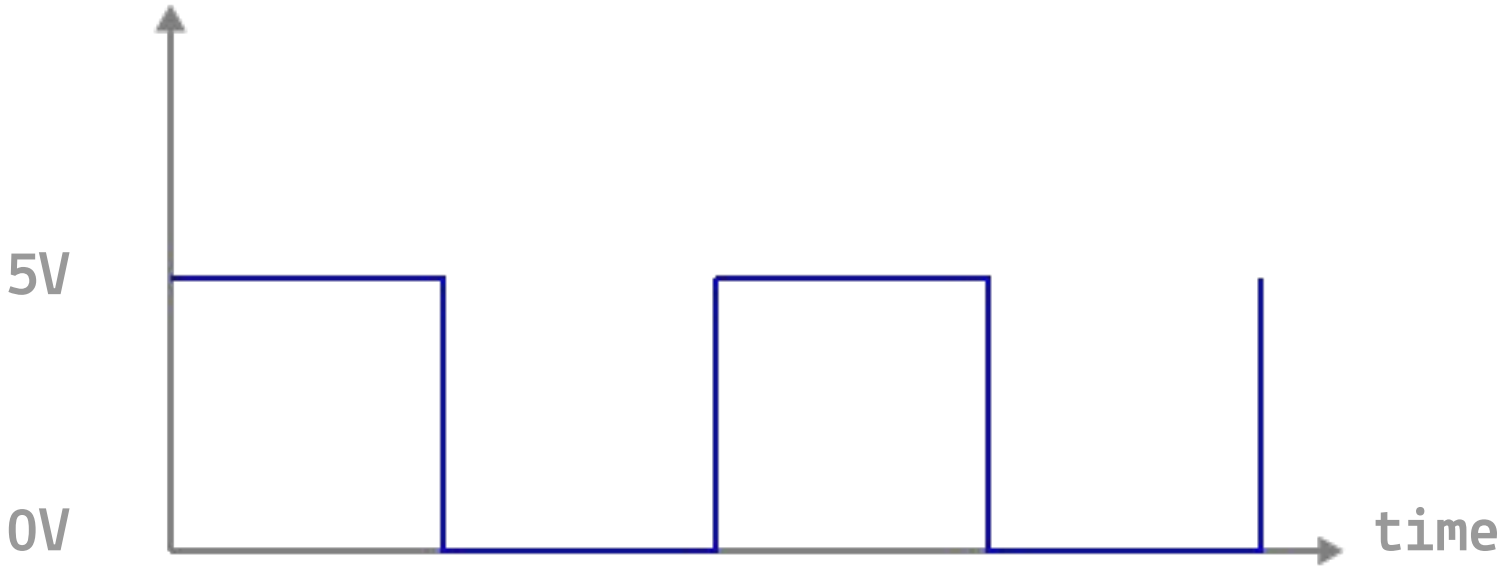




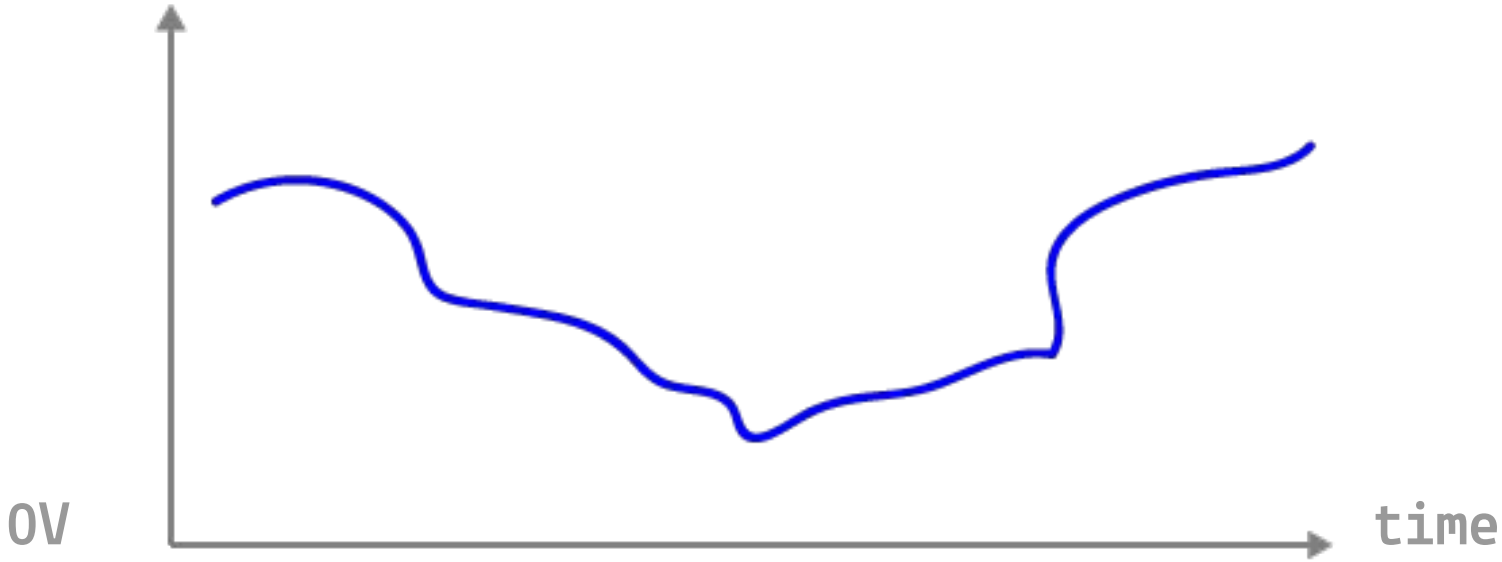
Change the blinking pattern to go faster, slower and alternate long and slow signals.

Digital vs Analog

Digital Signal



Analog Signal



For more on the topic

- https://learn.sparkfun.com/tutorials/analog-vs-digital/all
- https://www.diffen.com/difference/Analog_vs_Digital

Let’s go through the code together...

```
pinMode(pinNumber, mode)
```

```
pinMode(pinNumber, mode)
```

```
pinMode(pinNumber, mode)
```

```
digitalWrite(pinNumber, VALUE)
```

```
delay(milliseconds)
```