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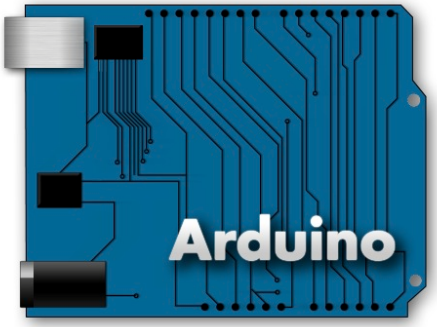



arduino.cc

# Introduction to Arduino Programming

# references

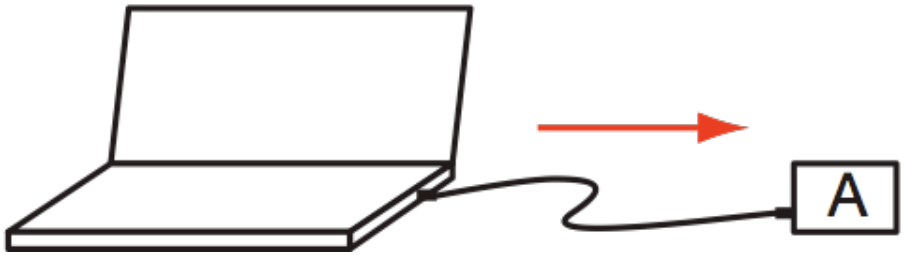
these notes borrow from . . .

- Arduino web site
  - http://arduino.cc/en/Guide/Environment
  - http://arduino.cc/en/Tutorial/HomePage
- Adafruit tutorial #1 and 2
  - http://www.ladyada.net/learn/arduino/lesson2.html
- Leah Buechley's Introduction to Arduino
  - http://web.media.mit.edu/~leah/LilyPad/03_arduino_intro.html

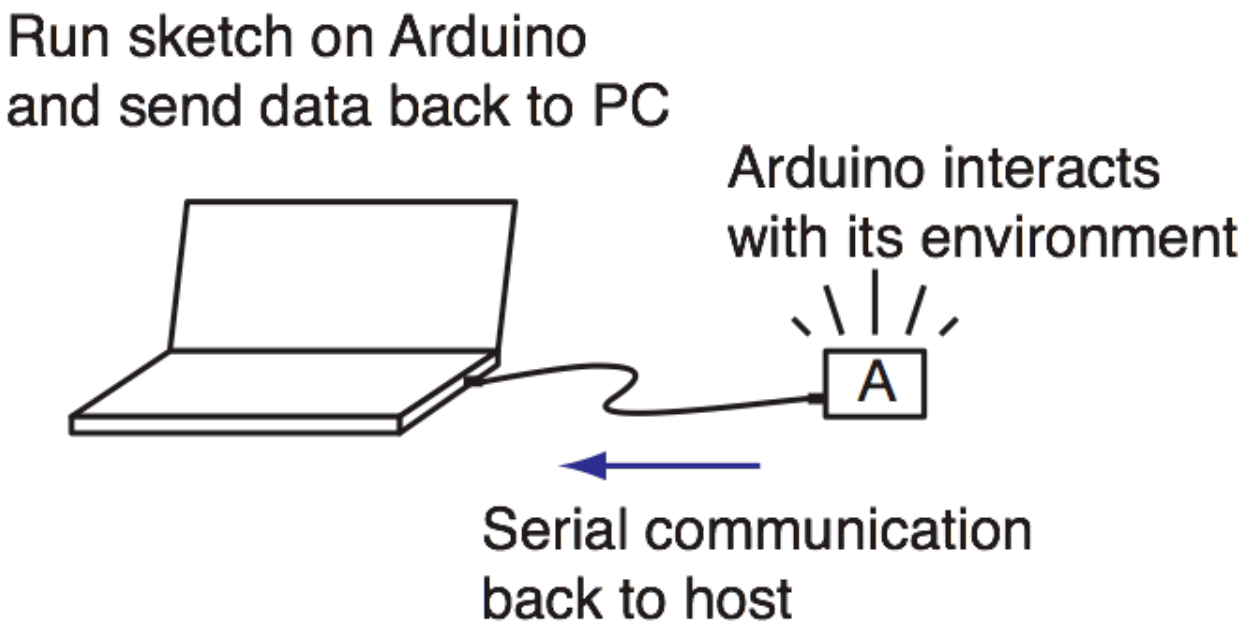
# writing and downloading code

Write sketch on PC

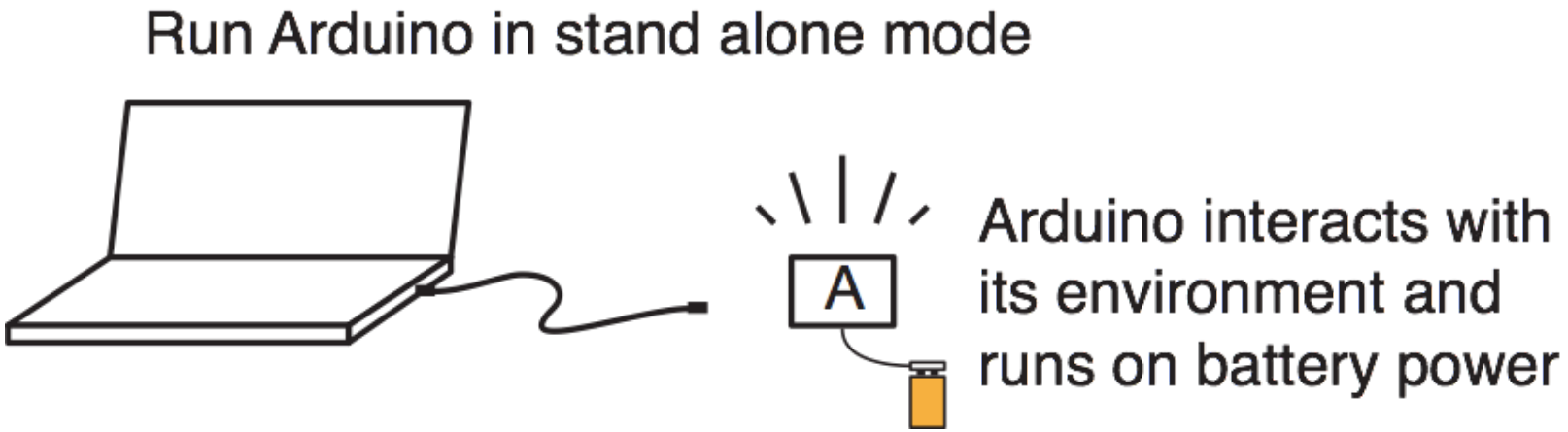

Download sketch to Arduino



# running Code while tethered



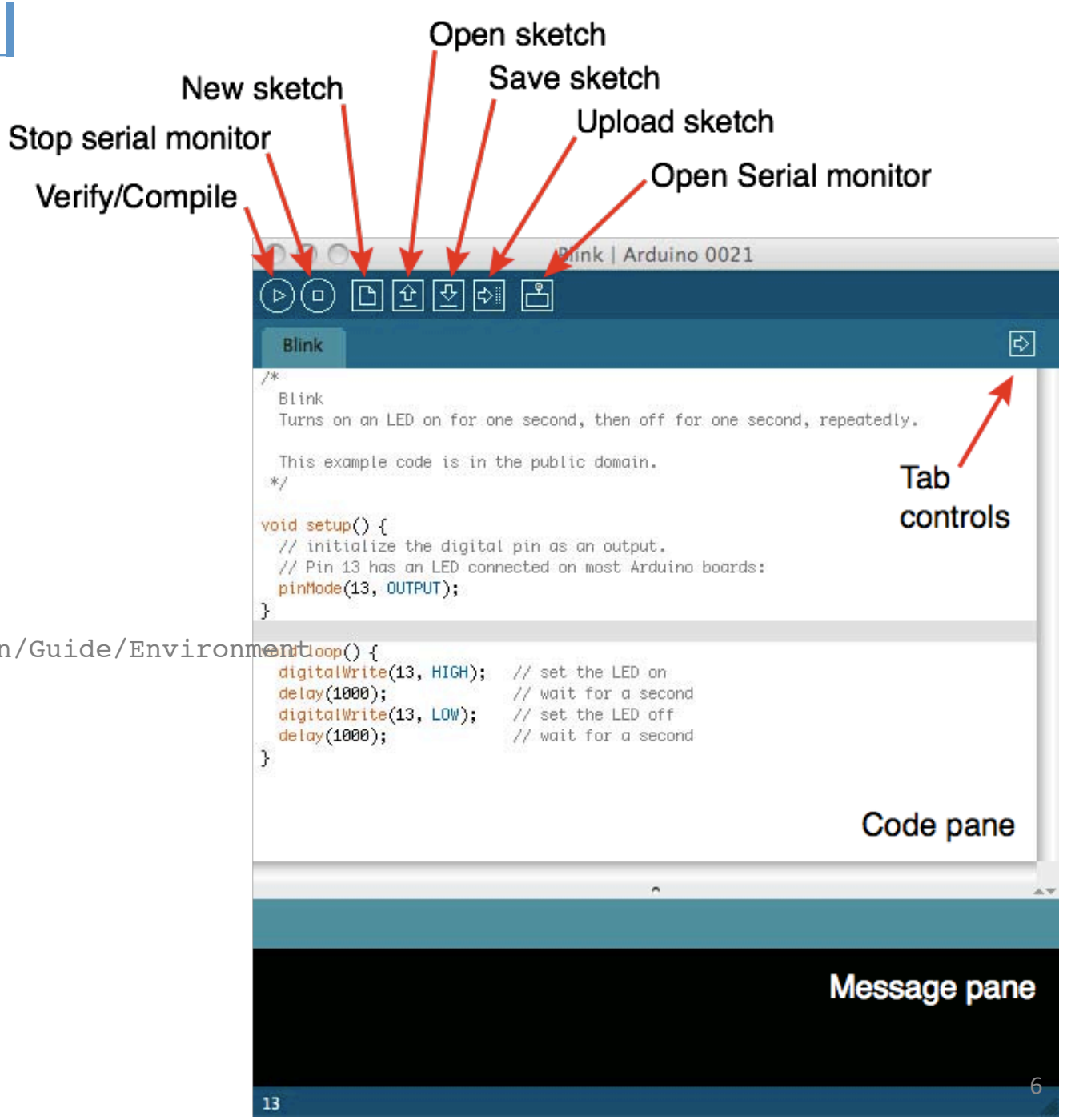
# running code stand-alone



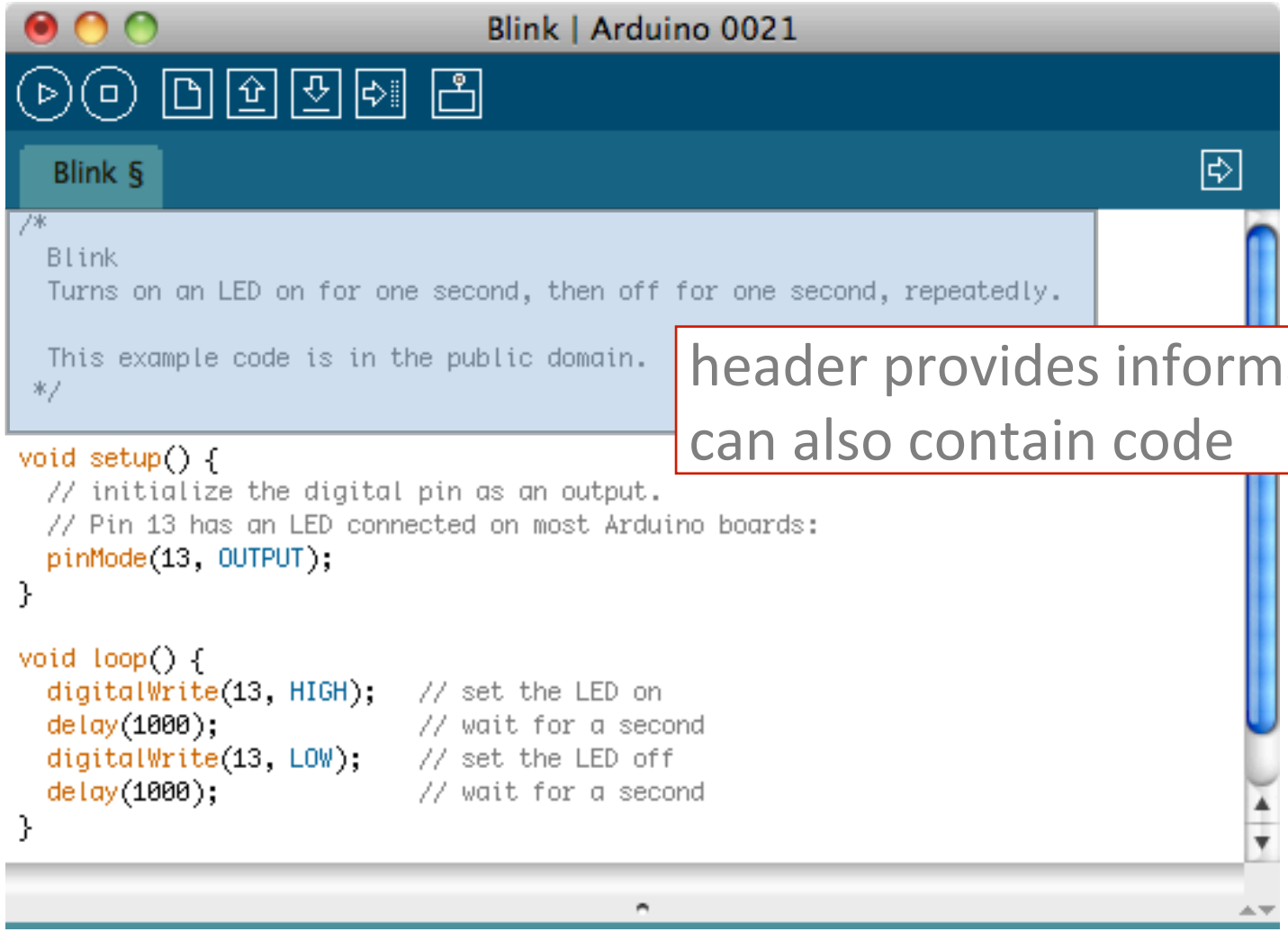
# Arduino IDE

IDE = Integrated Development Environment

http://www.arduino.cc/en/Guide/Environment

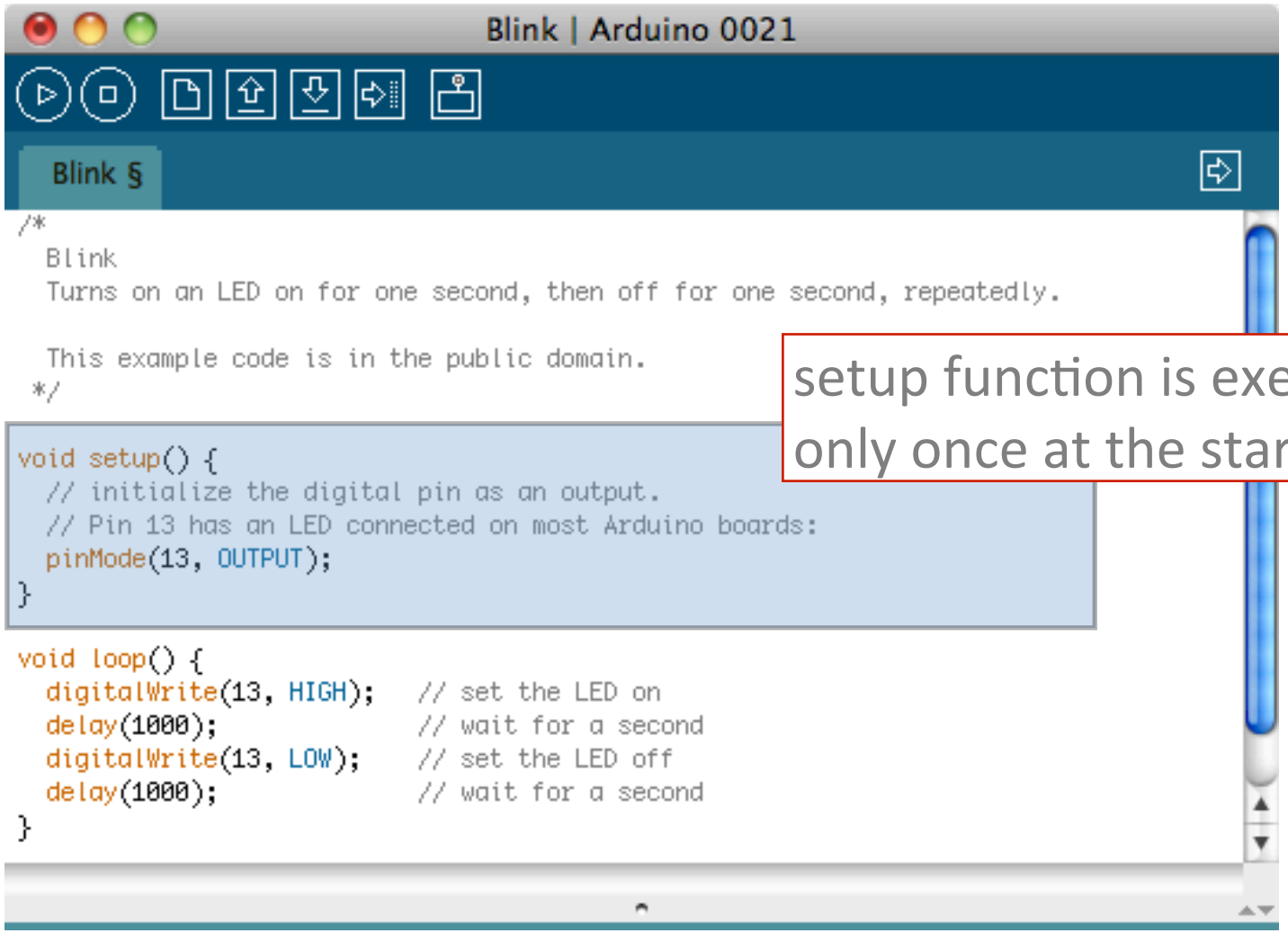


# code structure: header



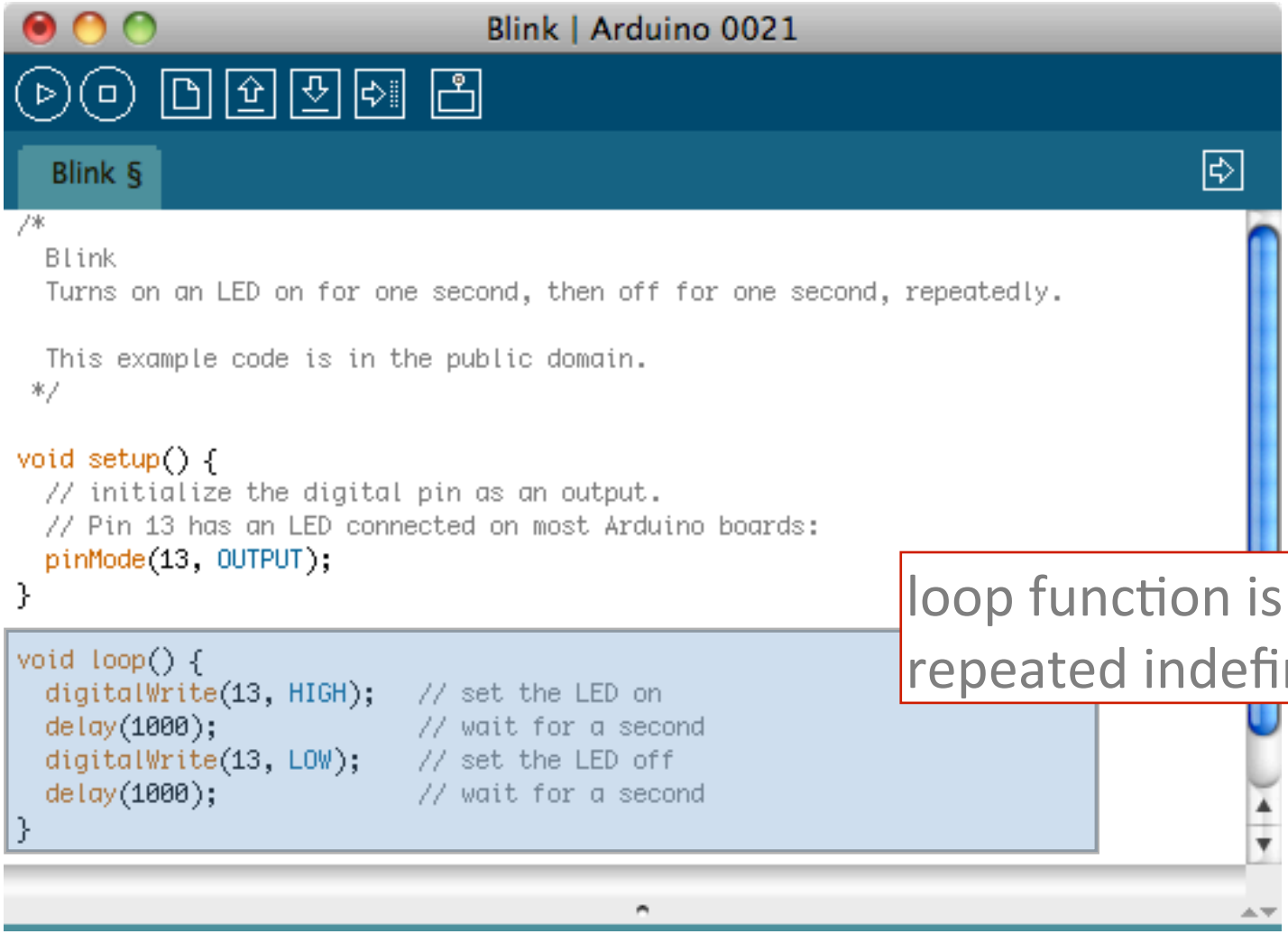

header provides information and can also contain code

# code structure: setup function



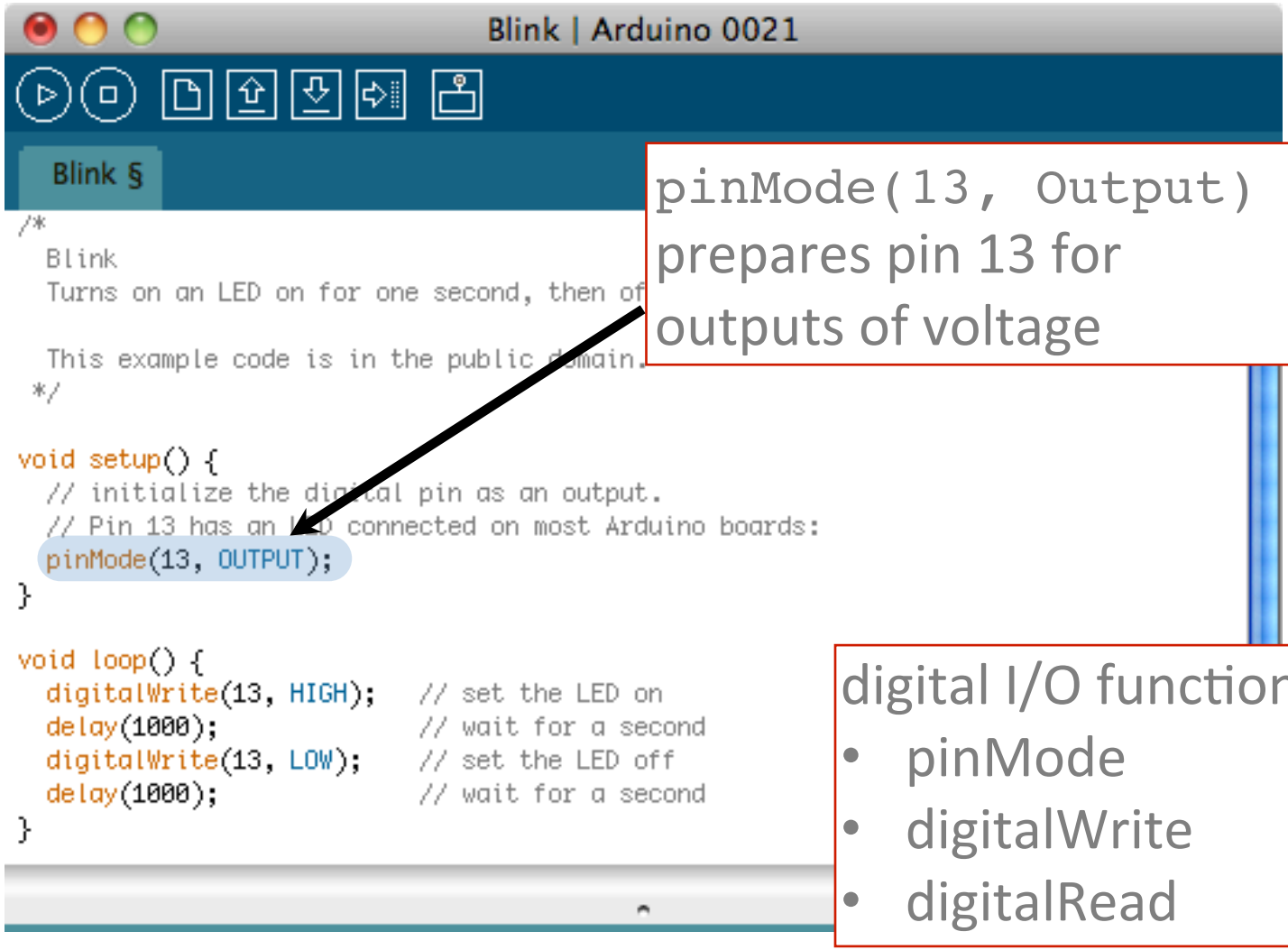

setup function is executed only once at the start

# code structure: loop function




loop function is repeated indefinitely

# code

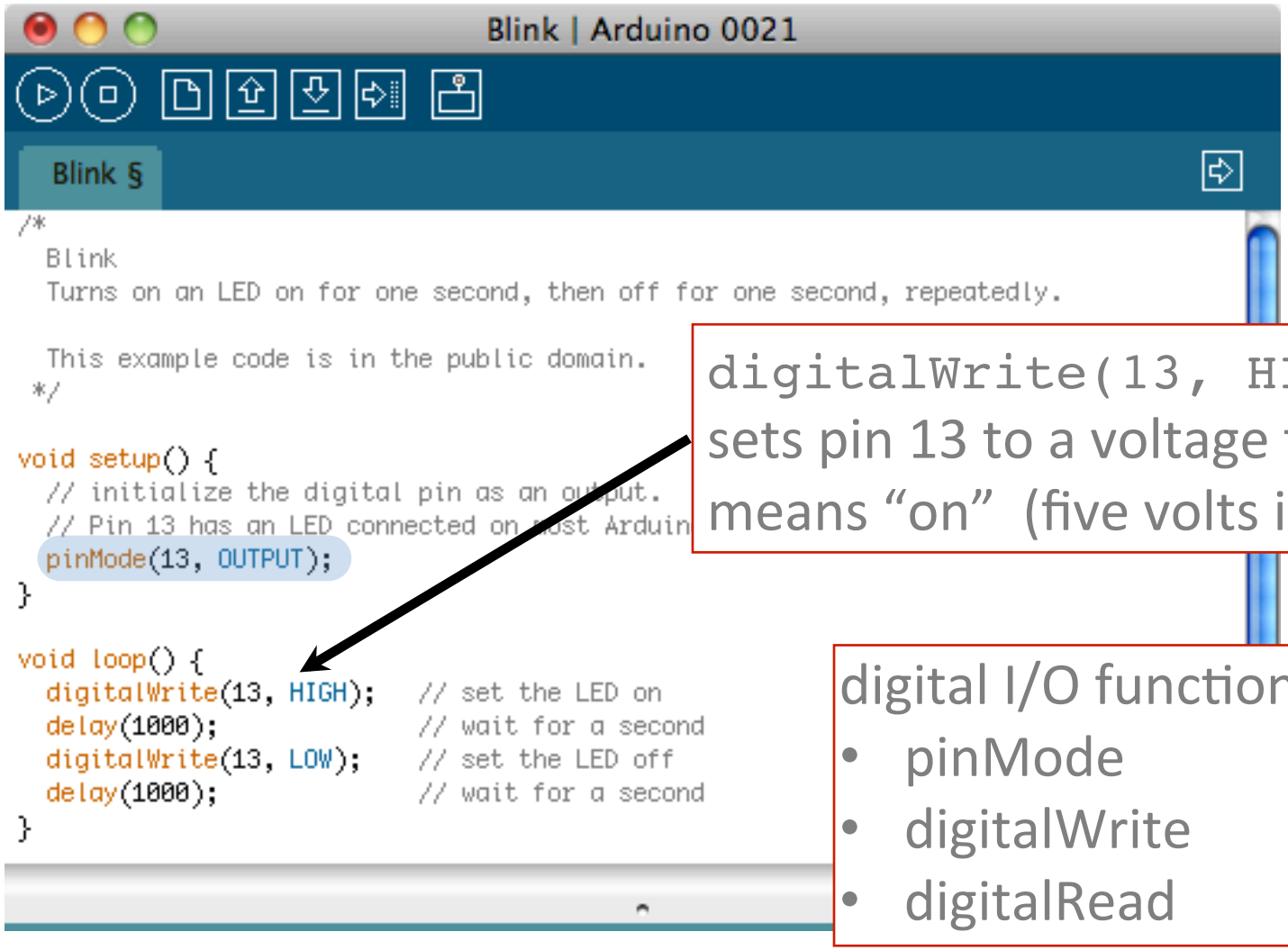



`pinMode(13, Output)` prepares pin 13 for outputs of voltage

digital I/O functions:

- pinMode
- digitalWrite
- digitalRead

# code

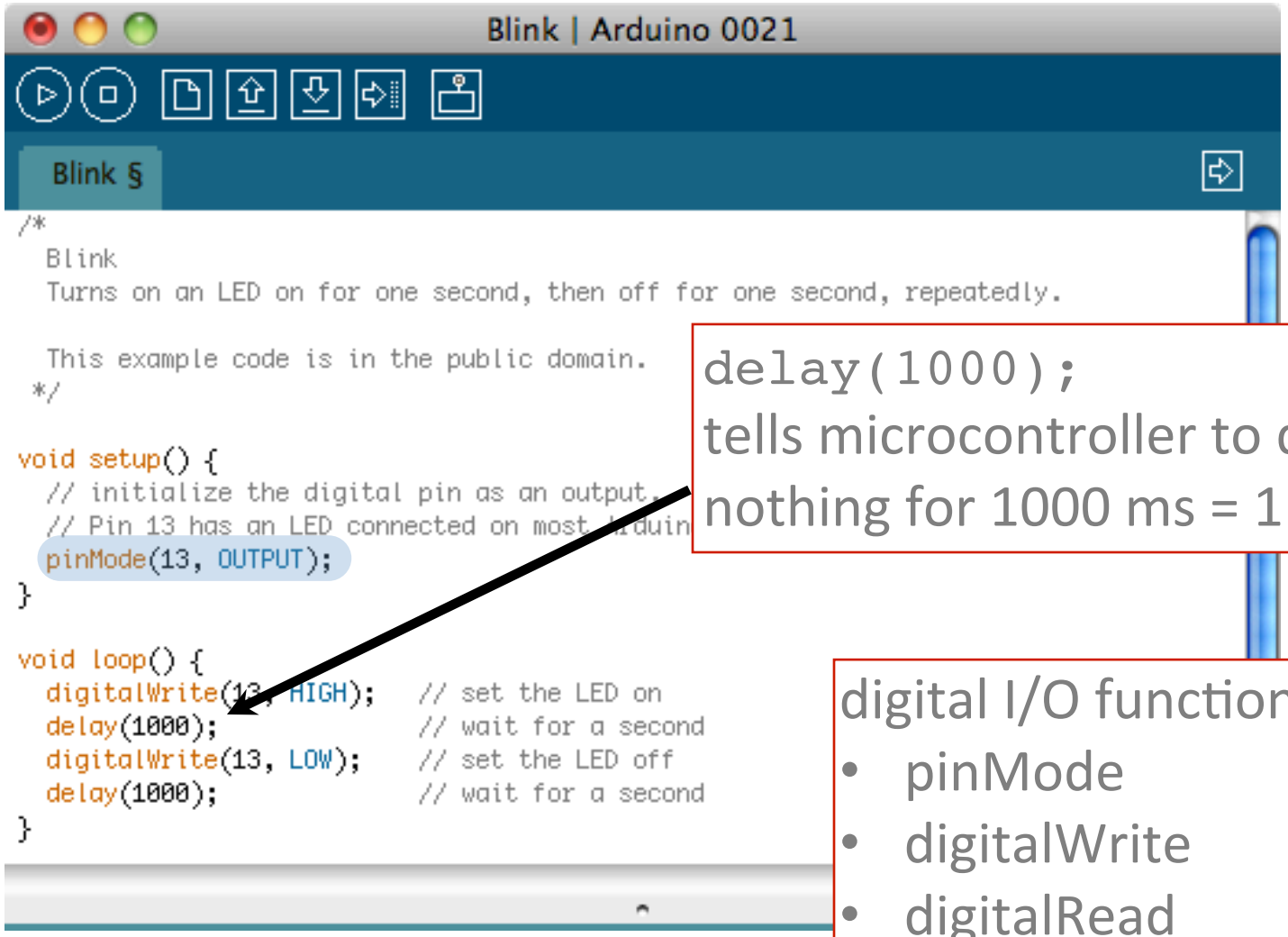



`digitalWrite(13, HIGH)` sets pin 13 to a voltage that means "on" (five volts in this case)

digital I/O functions:

- pinMode
- digitalWrite
- digitalRead

# code

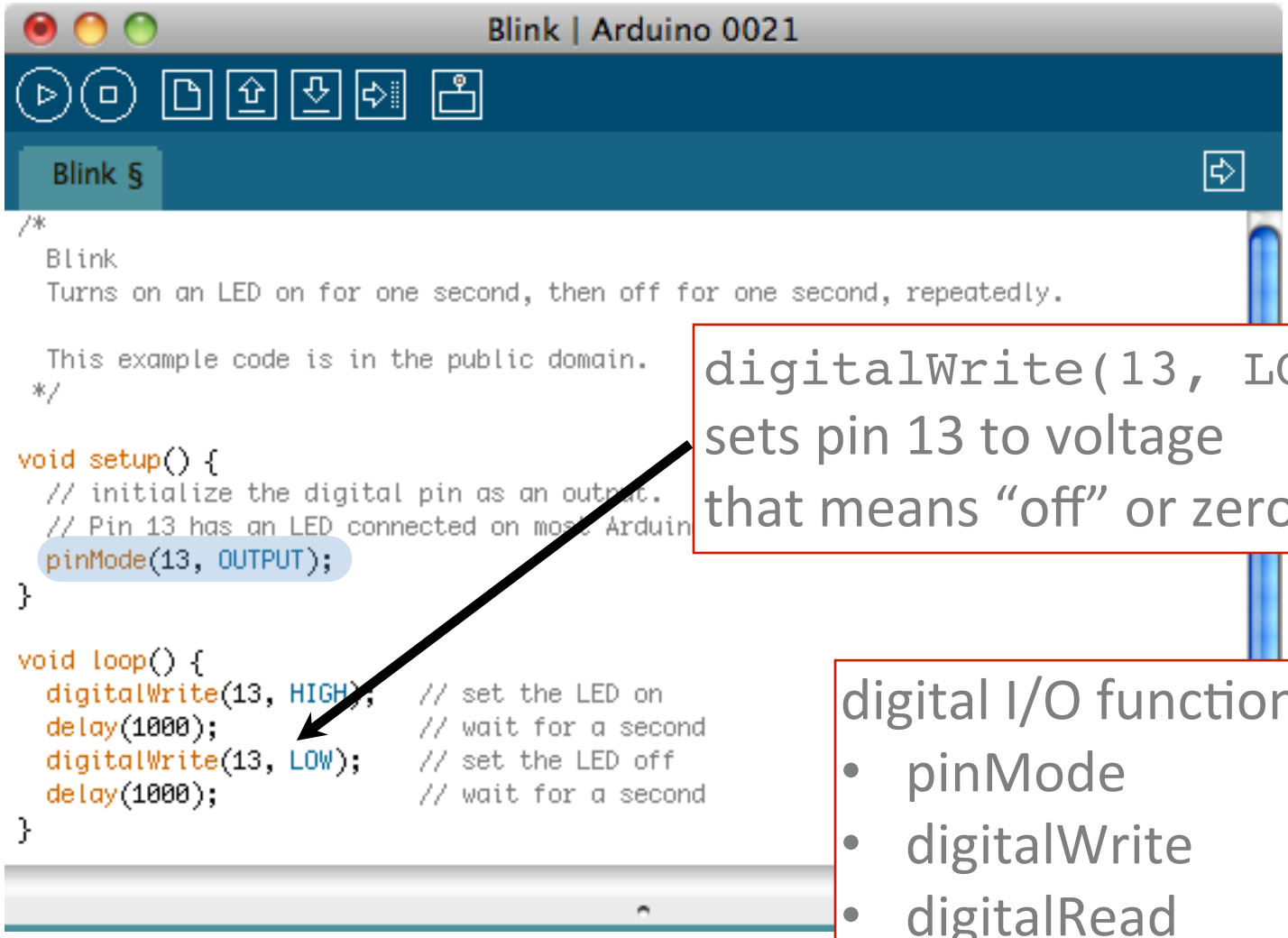



`delay(1000);`
tells microcontroller to do nothing for 1000 ms = 1 s

digital I/O functions:

- pinMode
- digitalWrite
- digitalRead

# code




`digitalWrite(13, LOW)`
sets pin 13 to voltage
that means “off” or zero volts

digital I/O functions:

- pinMode
- digitalWrite
- digitalRead