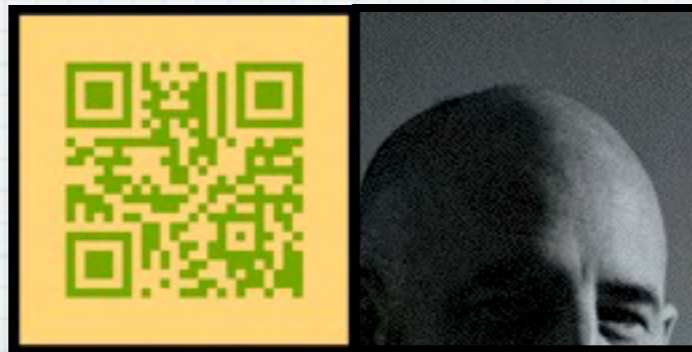


Arduino

Physical Computing



Physical Computing

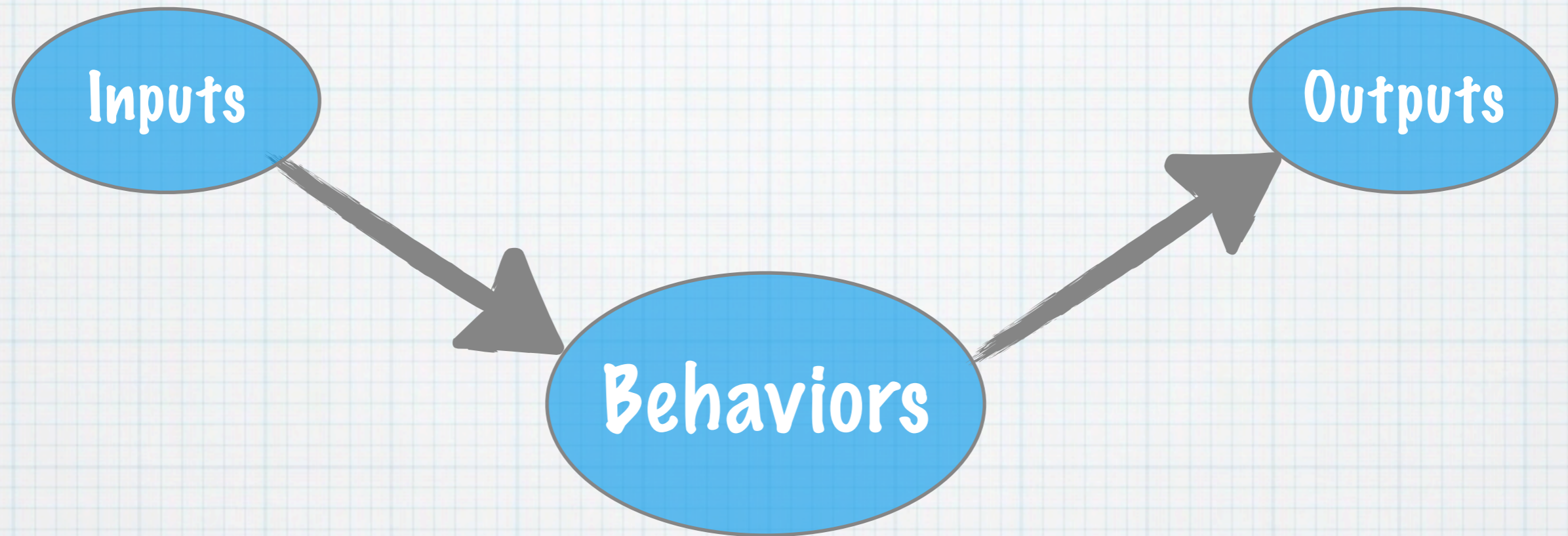
System Model



Behaviors

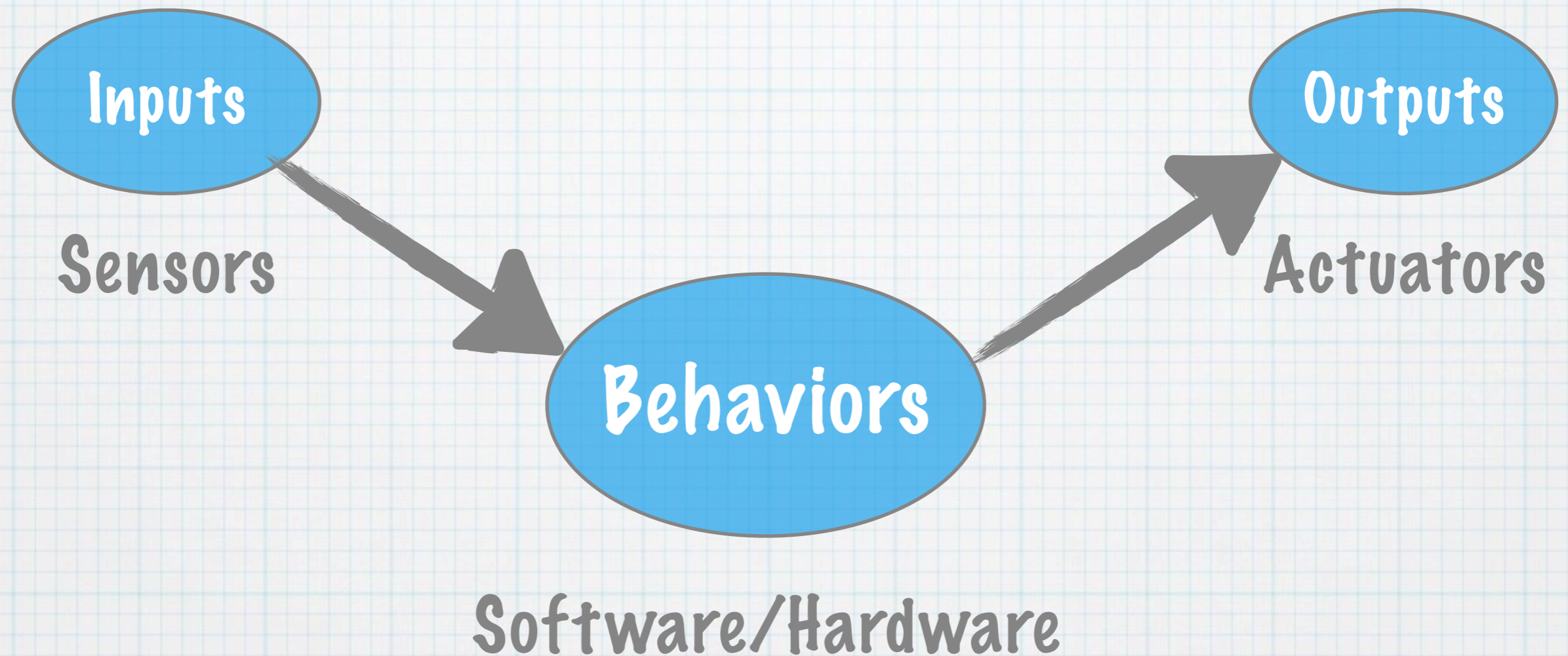
Physical Computing

System Model



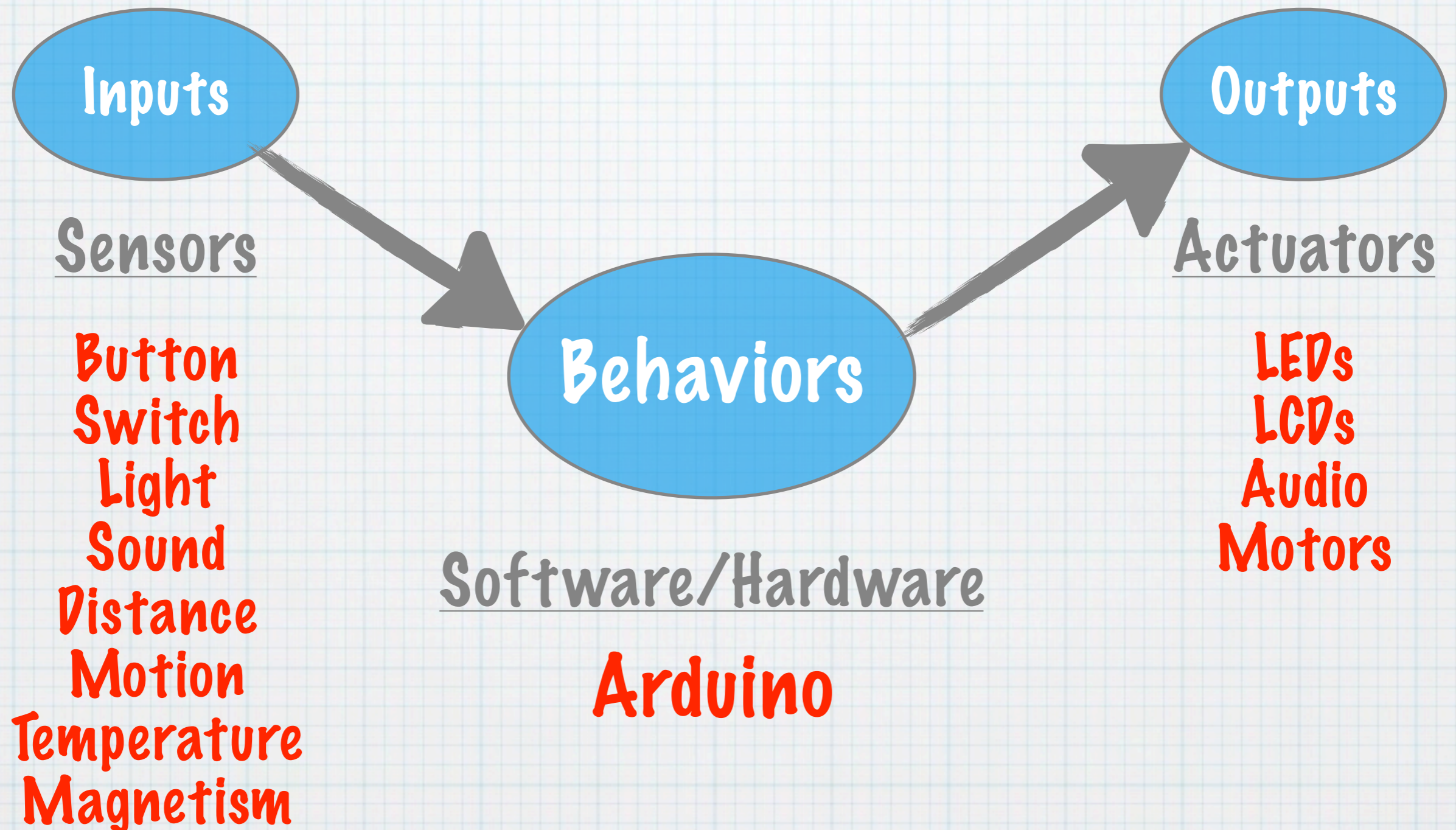
Physical Computing

System Model



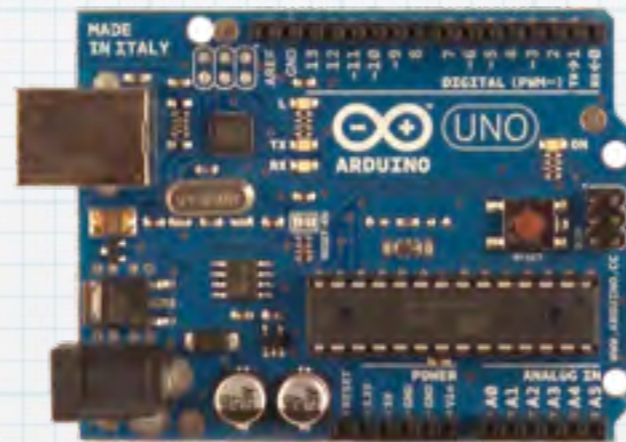
Physical Computing

System Model



Arduino

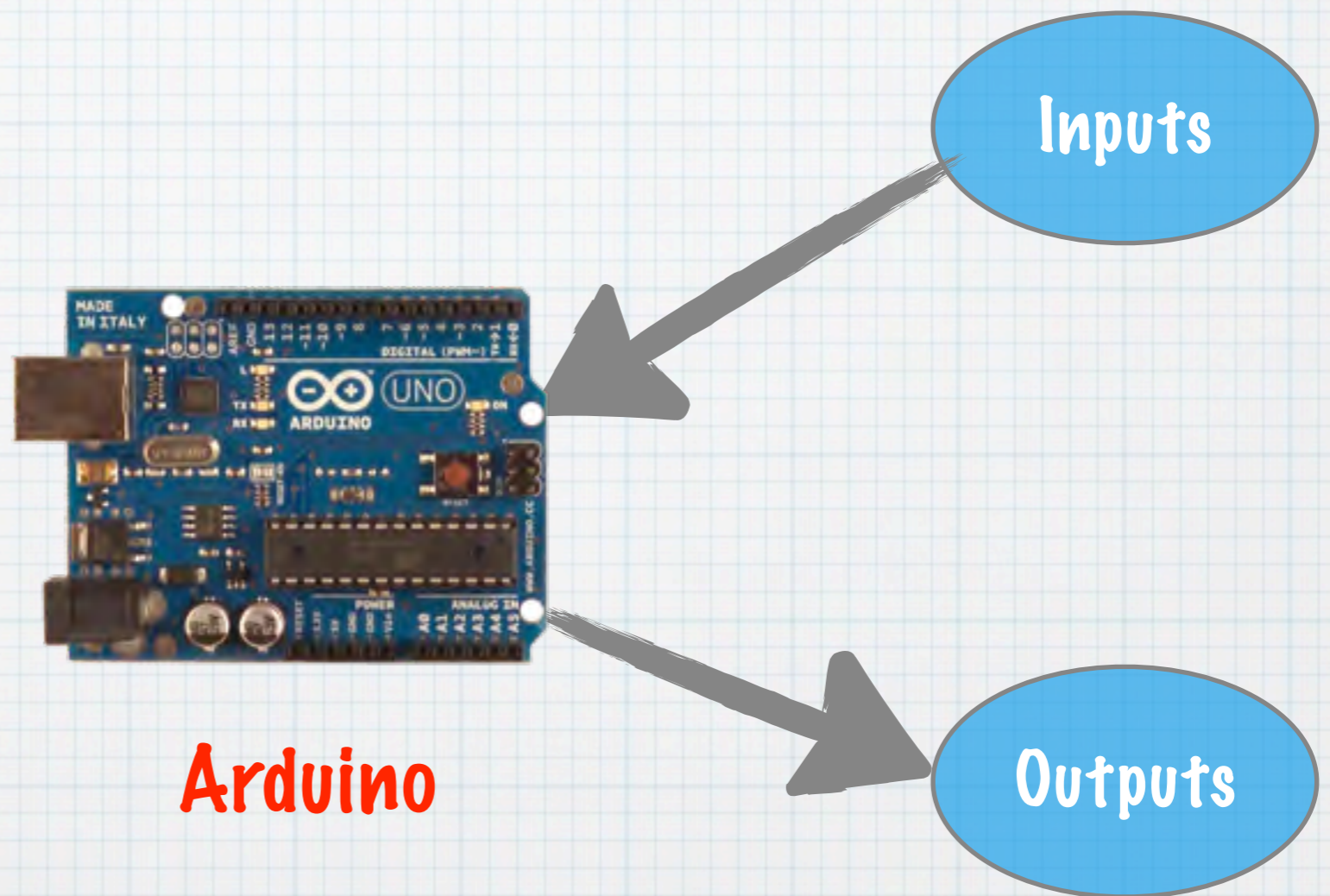
System Diagram



Arduino

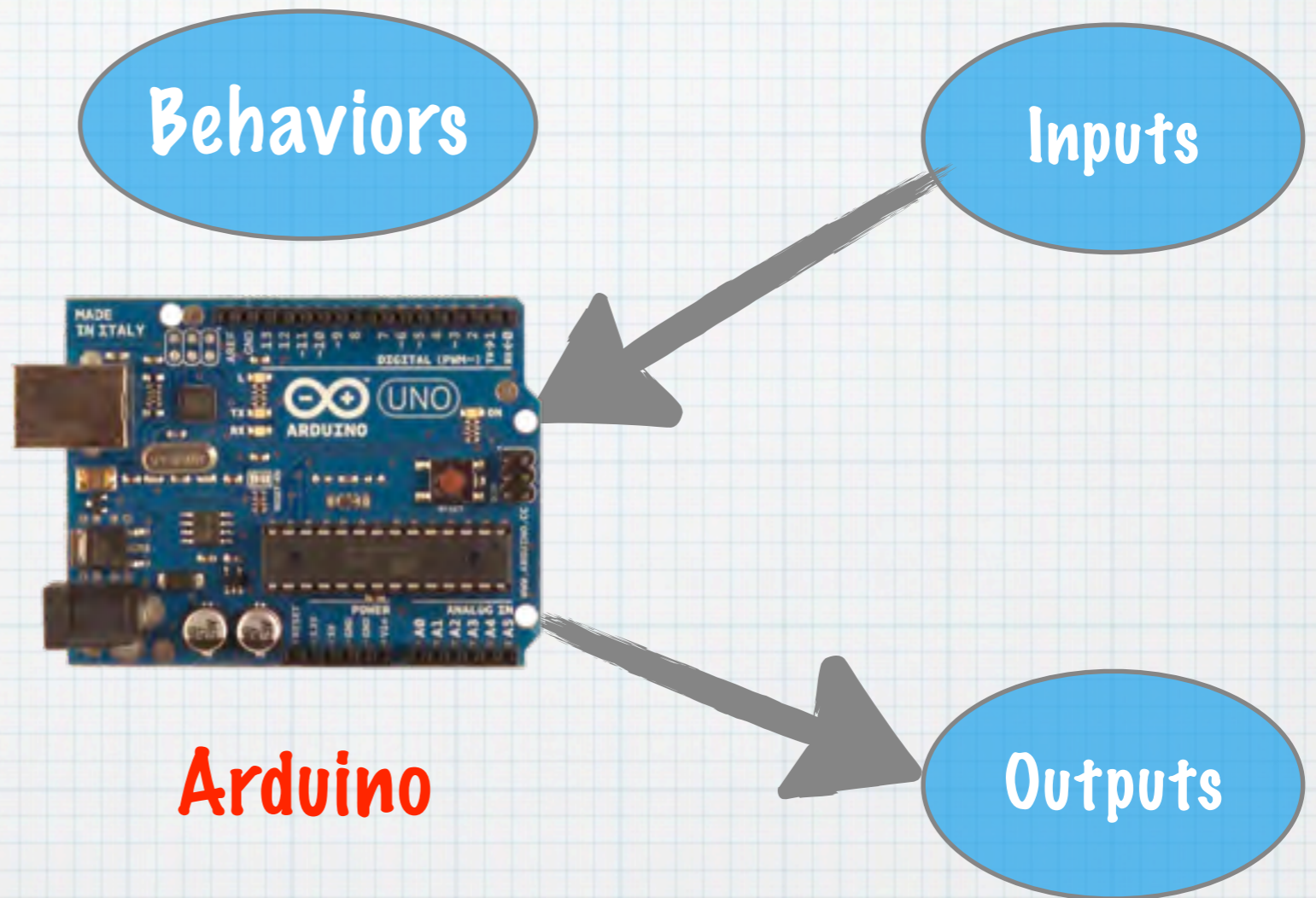
Arduino

System Diagram



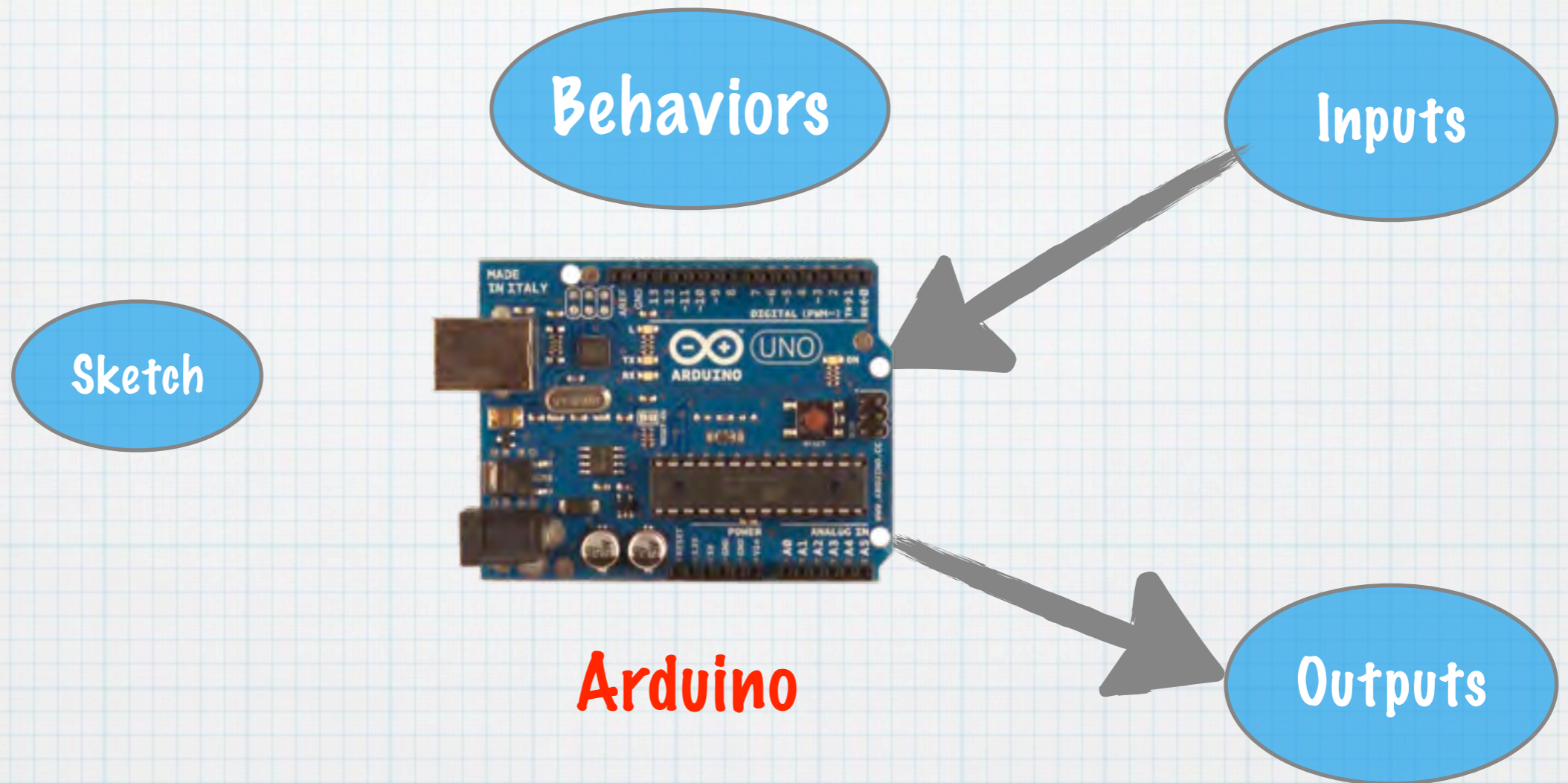
Arduino

System Diagram



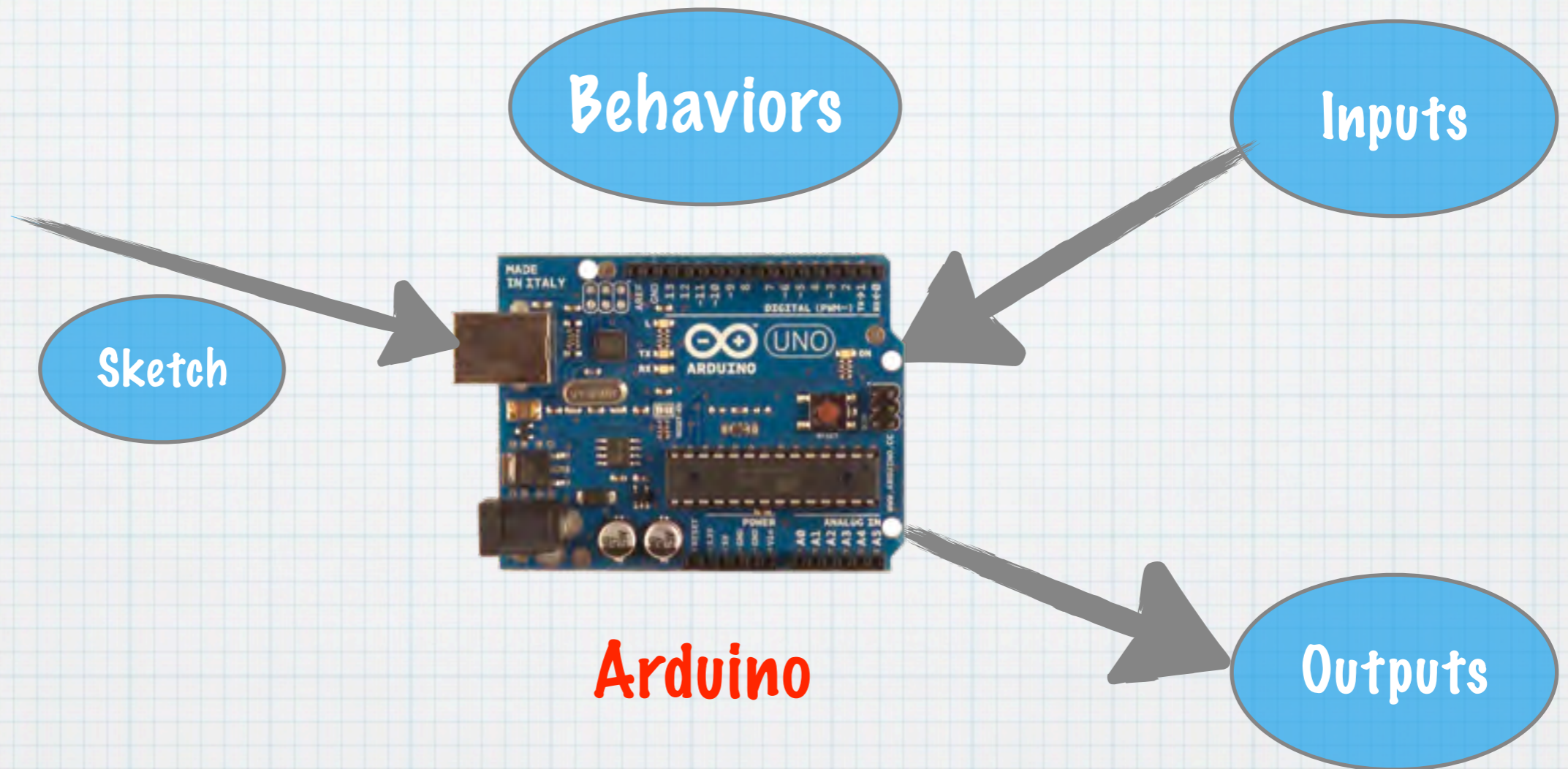
Arduino

System Diagram



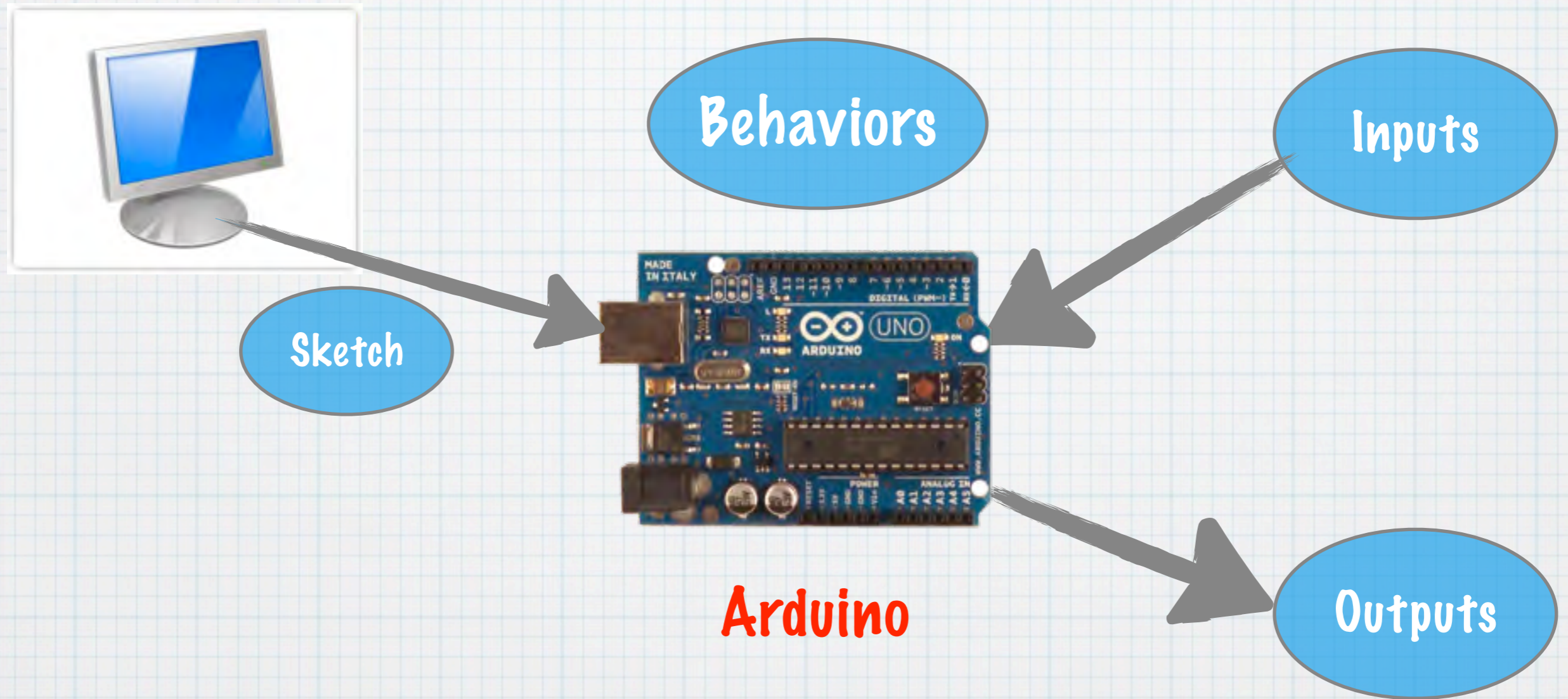
Arduino

System Diagram



Arduino

System Diagram



Arduino

System Diagram

Arduino
IDE



Sketch

Behaviors

Inputs

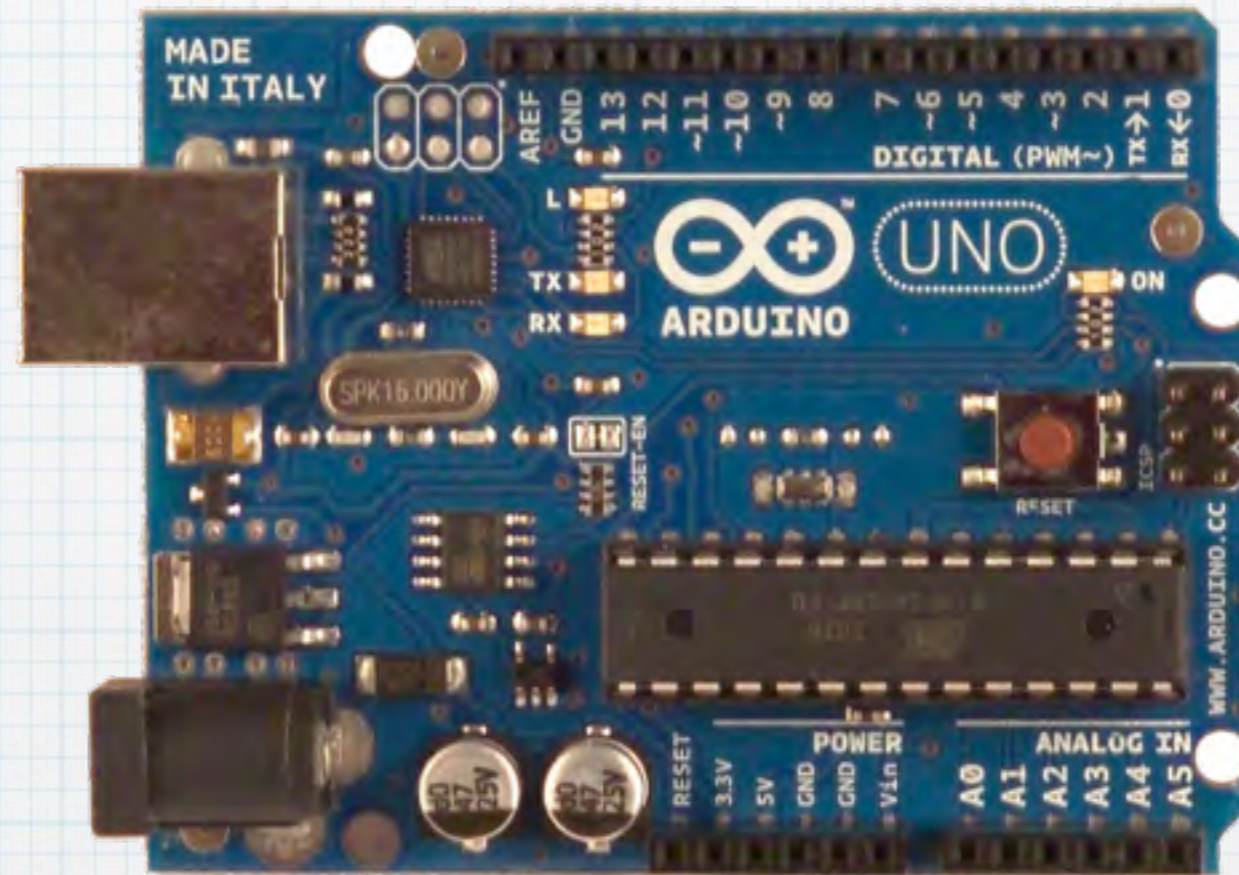


Arduino
Board

Outputs

Arduino

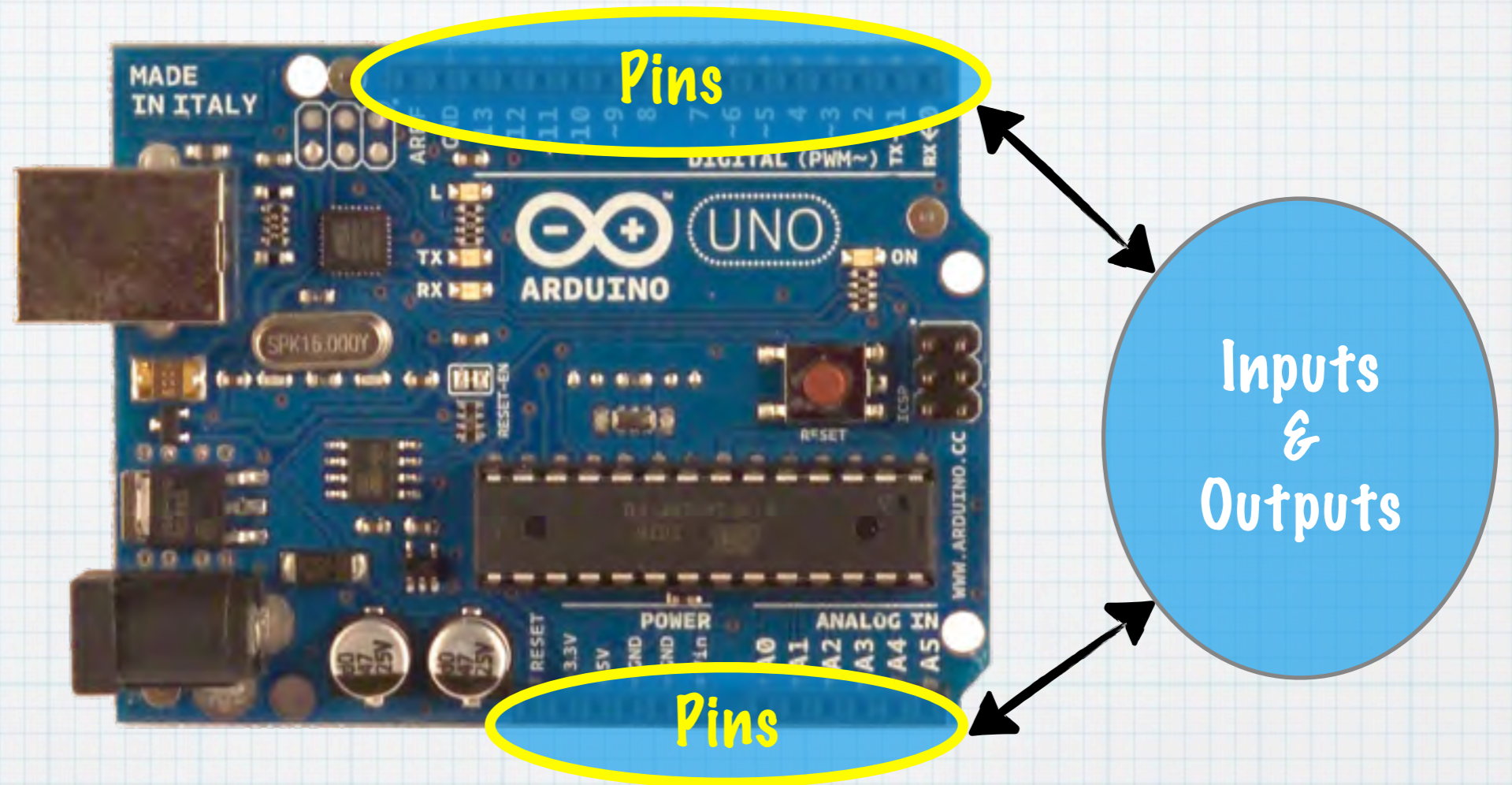
Board Details



Arduino Uno

Arduino

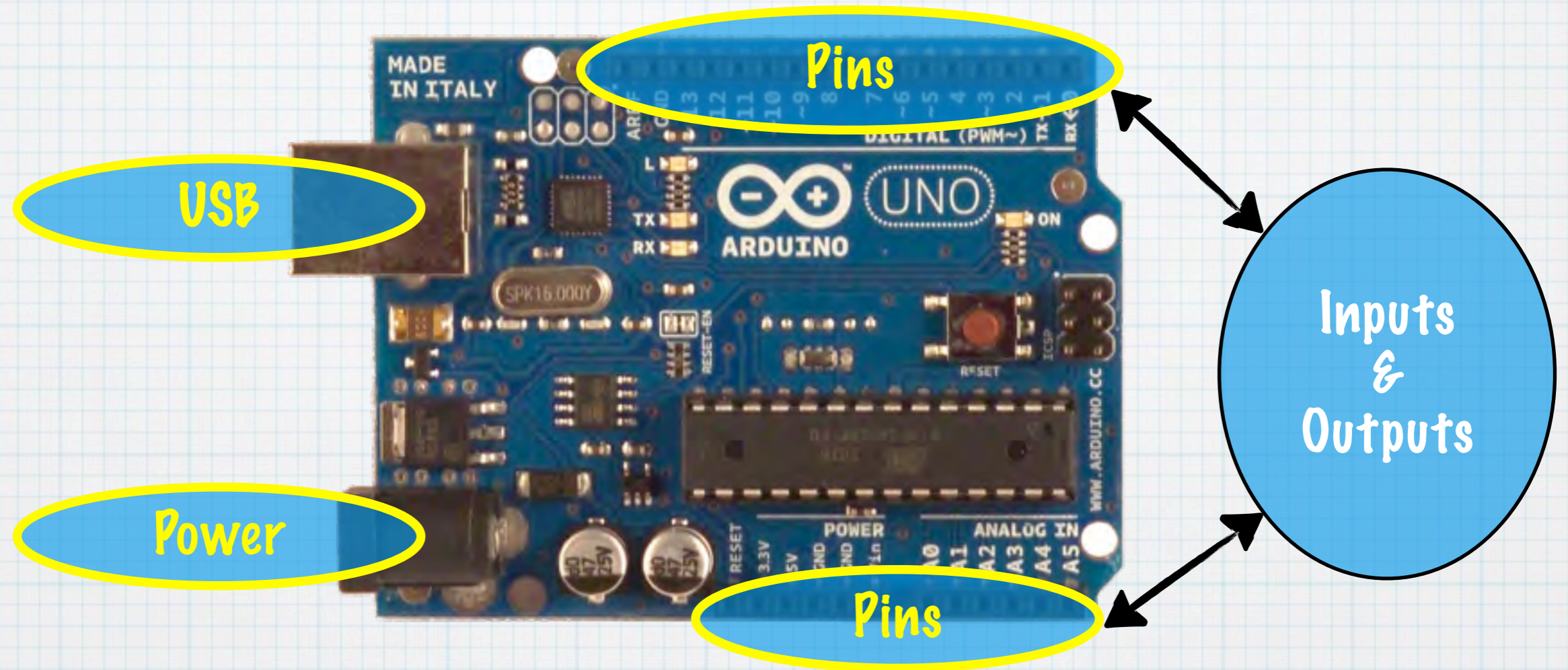
Board Details



Arduino
Uno

Arduino

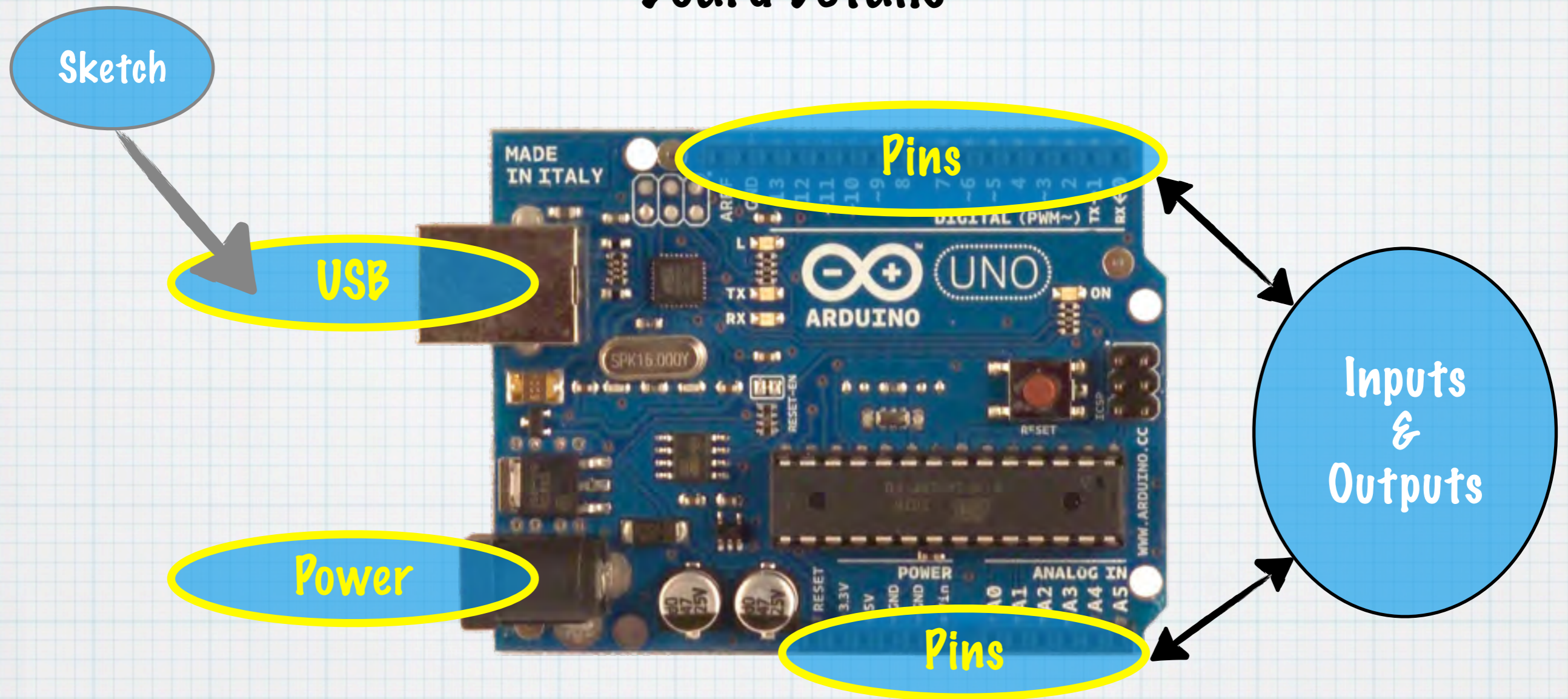
Board Details



Arduino Uno

Arduino

Board Details



**Arduino
Uno**

Arduino

System Diagram

Arduino
IDE



Sketch

Behaviors

Inputs



Arduino
Board

Outputs

Arduino

System Diagram

Arduino
IDE



Arduino

IDE Details

Arduino
IDE



```
Blink | Arduino 0022
Blink
/*
 * Blink
 * Turns on an LED on for one second, then off for one second, repeatedly.
 *
 * This example code is in the public domain.
 */

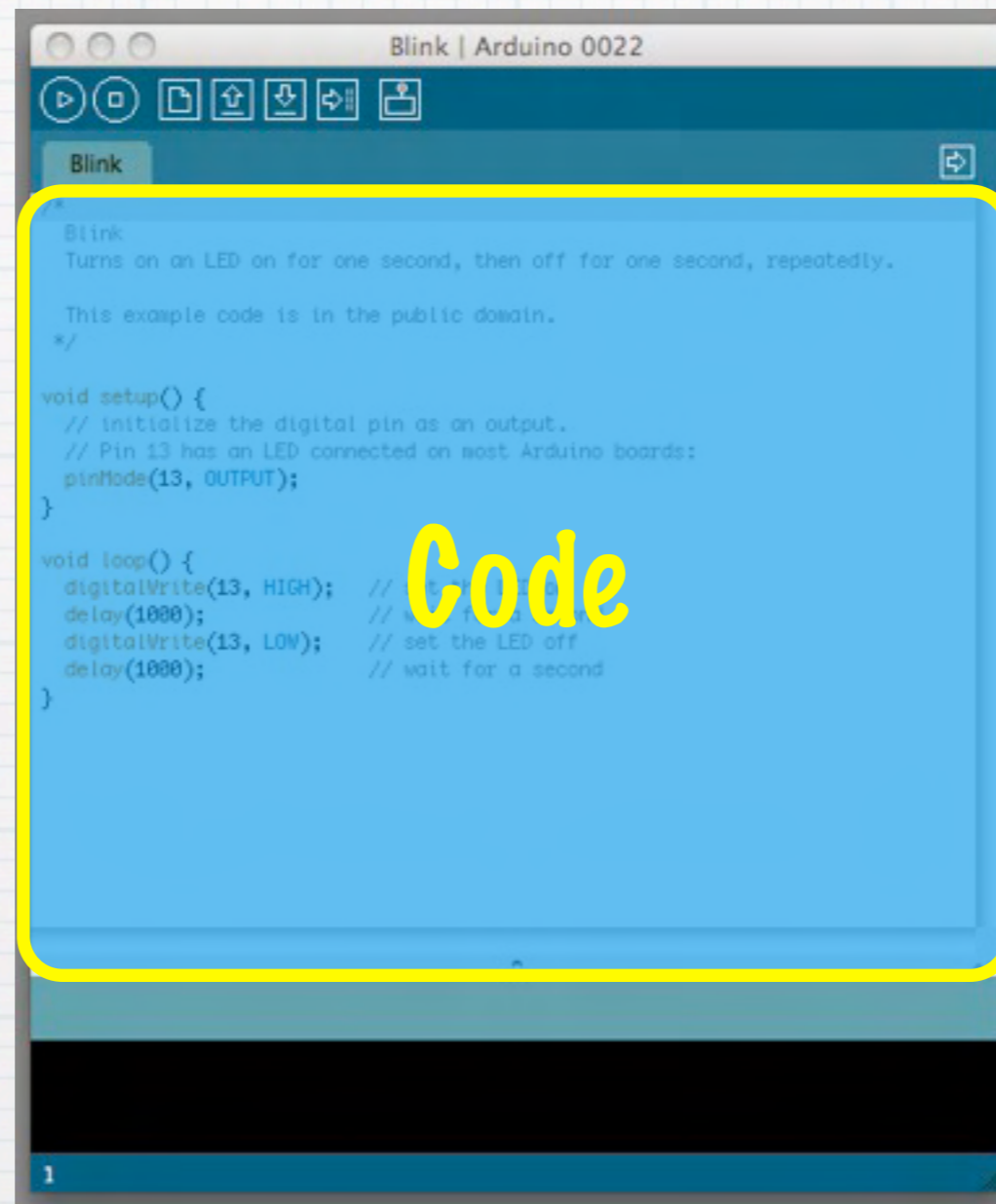
void setup() {
  // initialize the digital pin as an output.
  // Pin 13 has an LED connected on most Arduino boards:
  pinMode(13, OUTPUT);
}

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
}

1
```

Arduino

IDE Details

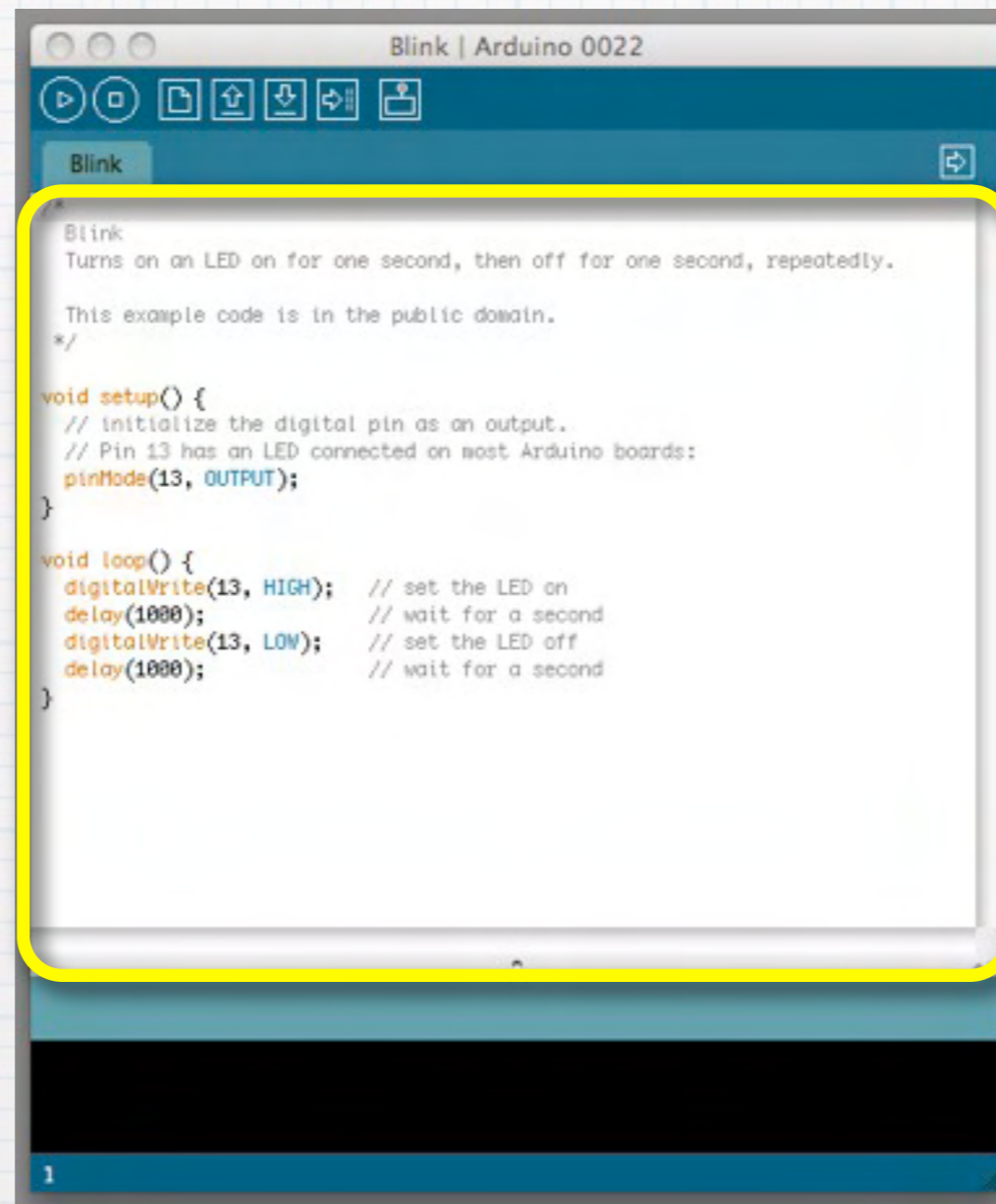


```
Blink | Arduino 0022  
Blink  
Blink  
Turns on an LED on for one second, then off for one second, repeatedly.  
  
This example code is in the public domain.  
*/  
  
void setup() {  
  // initialize the digital pin as an output.  
  // Pin 13 has an LED connected on most Arduino boards:  
  pinMode(13, 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  
}
```

Code

Arduino

IDE Details

A screenshot of the Arduino IDE interface. The window title is "Blink | Arduino 0022". The top toolbar contains icons for running, stopping, saving, opening, and other functions. Below the toolbar, there is a tab labeled "Blink". The main text area contains the following code:

```
Blink
Turns on an LED on for one second, then off for one second, repeatedly.

This example code is in the public domain.
*/

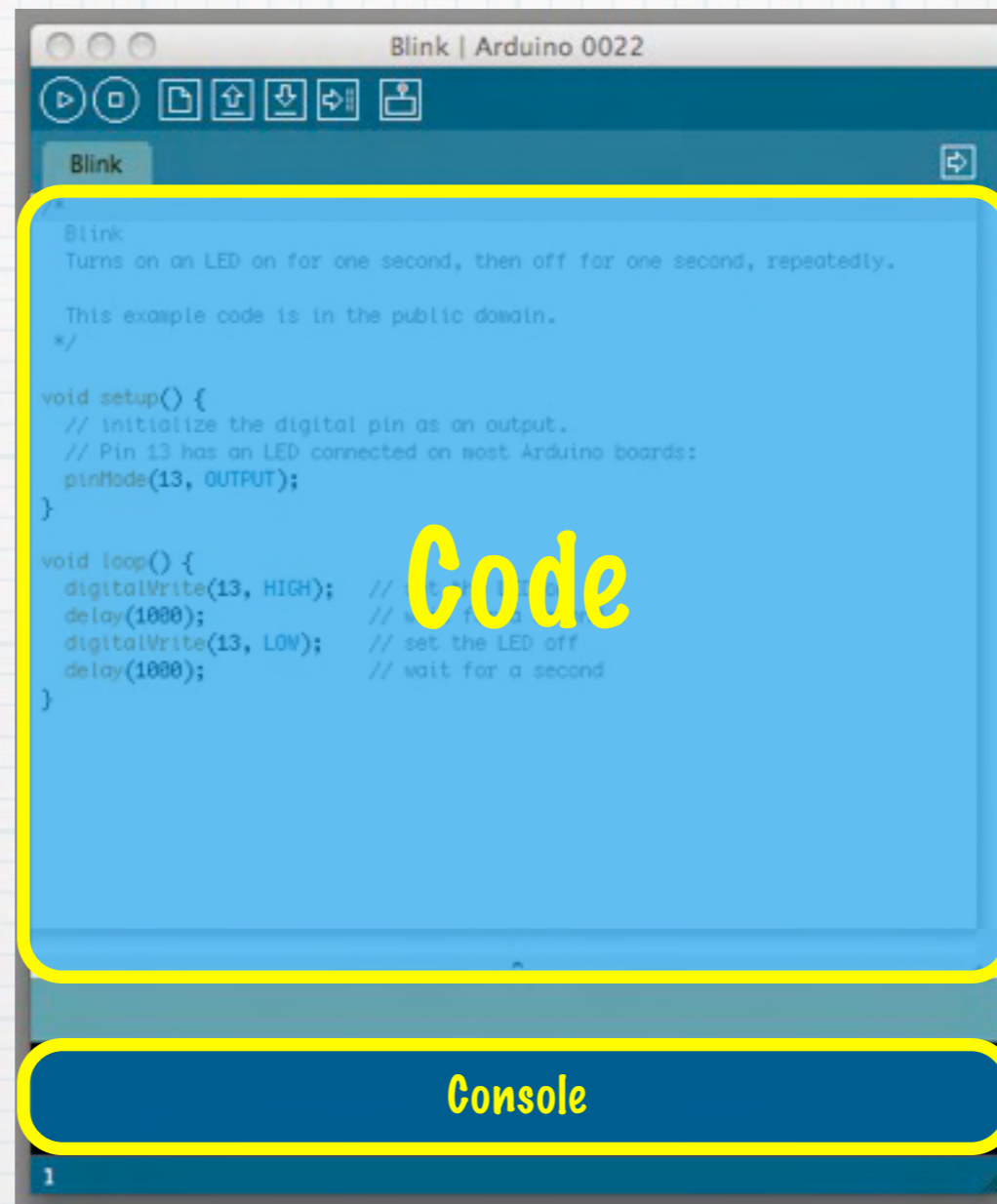
void setup() {
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  // Pin 13 has an LED connected on most Arduino boards:
  pinMode(13, OUTPUT);
}

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
}
```

The code is color-coded: keywords like `void`, `setup`, `loop`, `pinMode`, `digitalWrite`, and `delay` are in orange; comments are in grey; and string literals and constants like `HIGH`, `LOW`, and `OUTPUT` are in blue. A yellow border highlights the main code area. At the bottom left of the IDE window, the number "1" is visible.

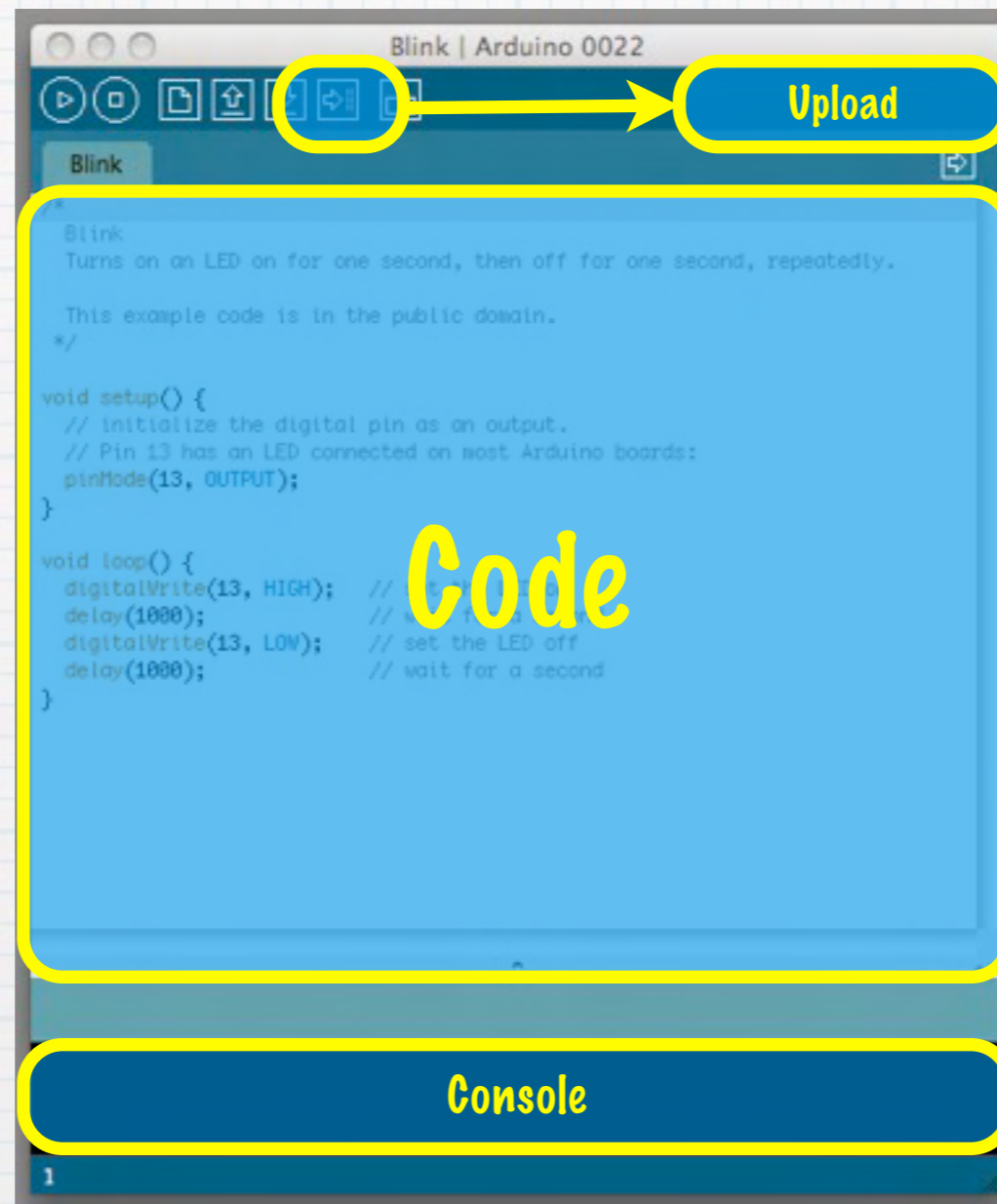
Arduino

IDE Details



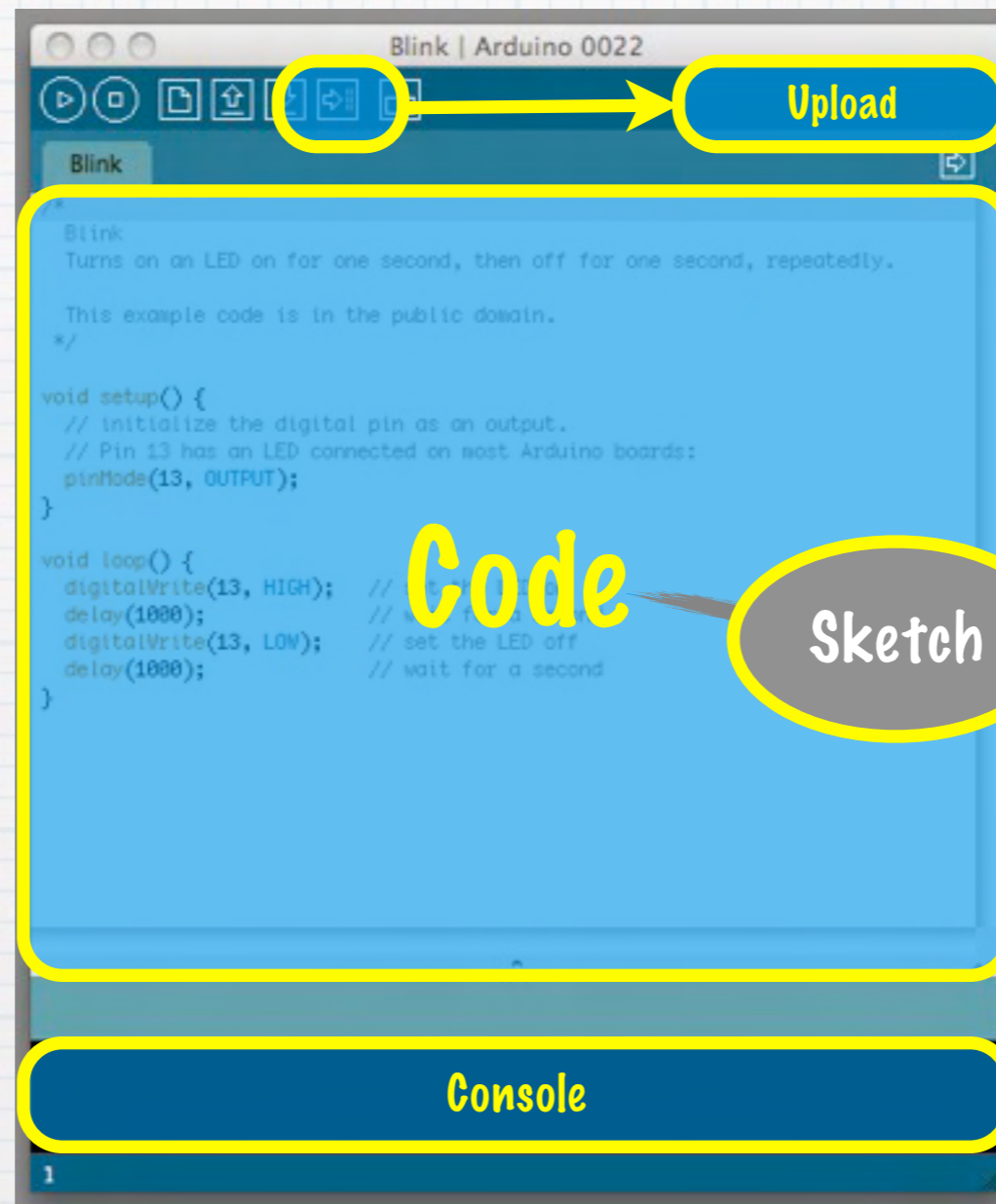
Arduino

IDE Details



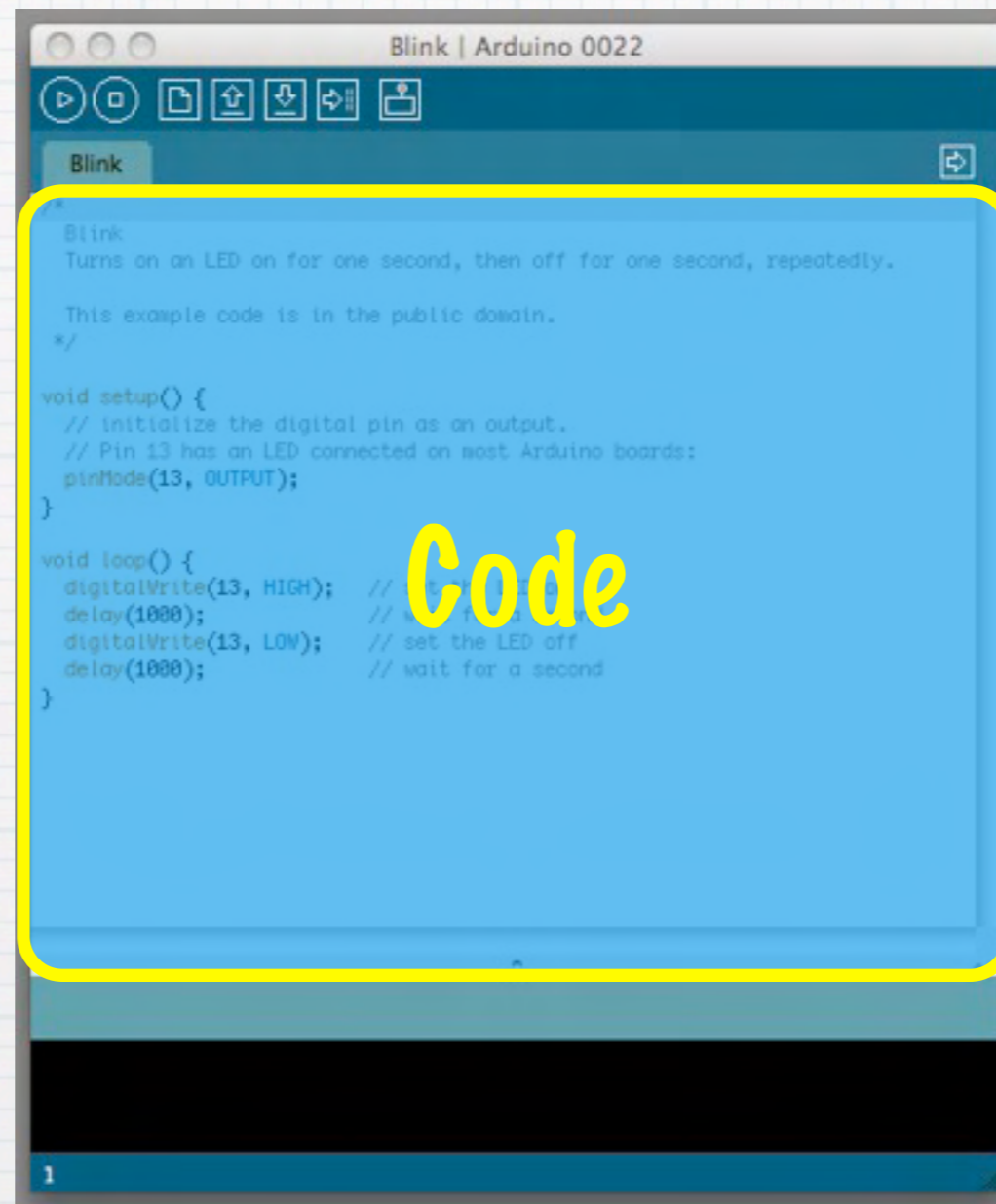
Arduino

IDE Details



Arduino

IDE Details



```
Blink | Arduino 0022
Blink
Blink
Turns on an LED on for one second, then off for one second, repeatedly.

This example code is in the public domain.
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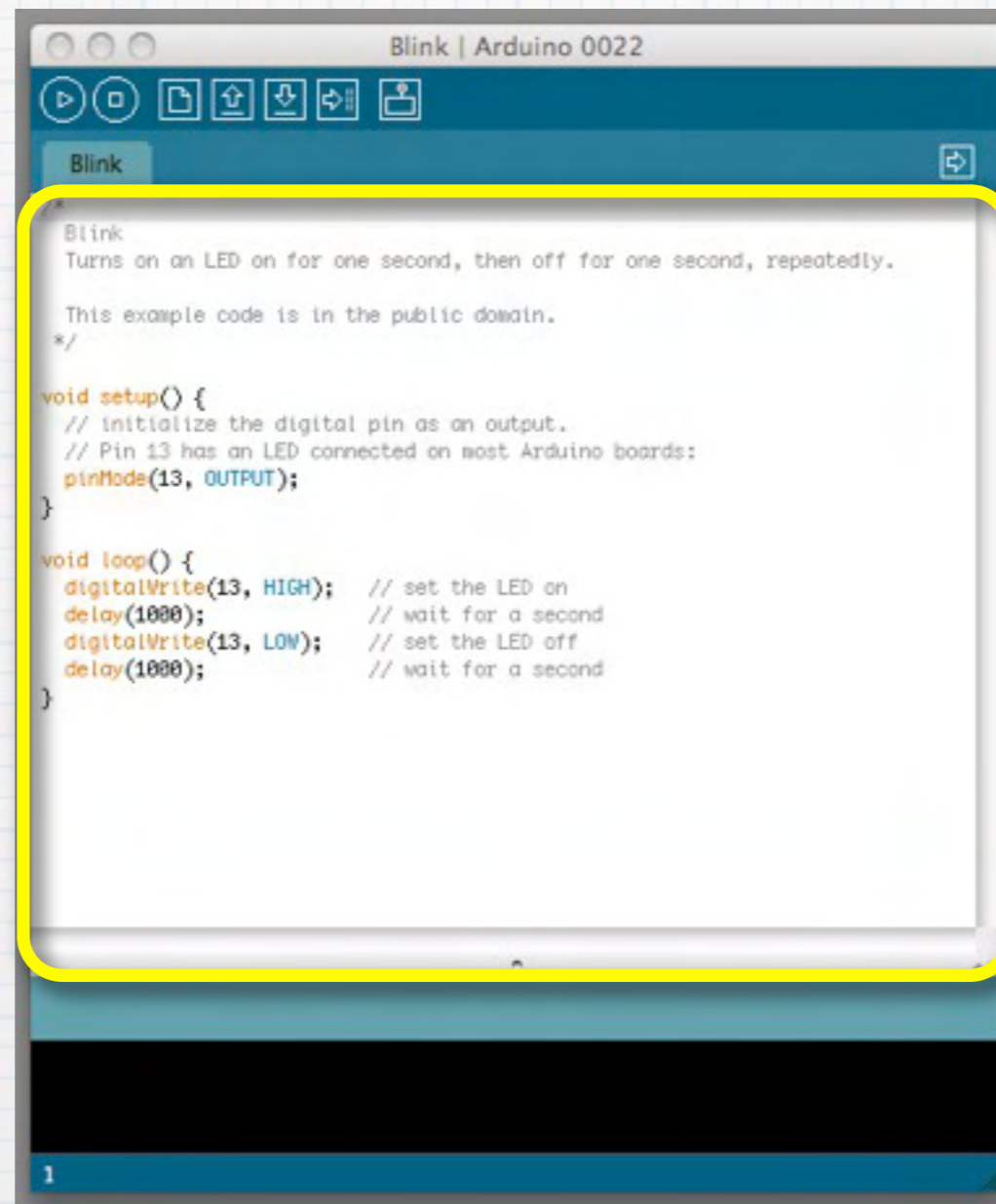
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void loop() {
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  delay(1000);             // wait for a second
  digitalWrite(13, LOW);  // set the LED off
  delay(1000);            // wait for a second
}

1
```

Arduino

IDE Details

A screenshot of the Arduino IDE interface. The window title is "Blink | Arduino 0022". The top toolbar contains icons for Run, Stop, New, Open, Save, Undo, Redo, and Help. Below the toolbar is a tab labeled "Blink". The main text area contains the following code:

```
Blink
Turns on an LED on for one second, then off for one second, repeatedly.

This example code is in the public domain.
*/

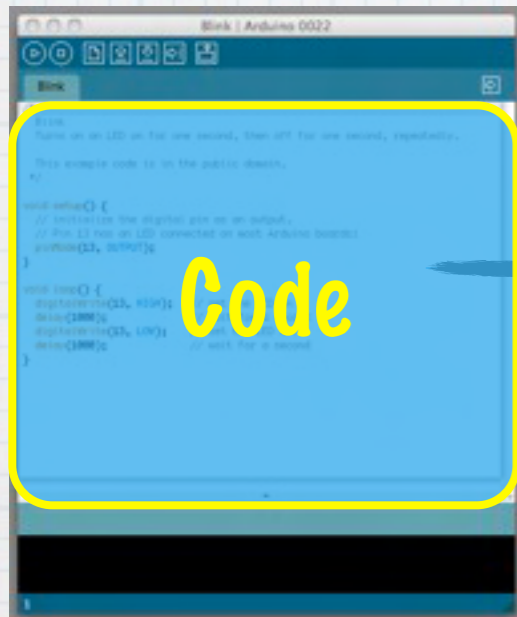
void setup() {
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  // Pin 13 has an LED connected on most Arduino boards:
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  digitalWrite(13, HIGH); // set the LED on
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  digitalWrite(13, LOW); // set the LED off
  delay(1000);          // wait for a second
}
```

The code is color-coded: keywords are in orange, comments are in grey, and strings are in blue. A yellow border highlights the main code area. At the bottom left of the IDE, the number "1" is visible.

Arduino

Code Basics



```
/* Blink
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  then off for one second, repeatedly.

  This example code is in the public domain.
  */

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  digitalWrite(13, HIGH); // set the LED on
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}
```

Arduino

Code Basics

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  Turns on an LED on for one second,
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  This example code is in the public domain.
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void setup() {
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void loop() {
  digitalWrite(13, HIGH); // set the LED on
  delay(1000);           // wait for one second
  digitalWrite(13, LOW); // set the LED off
  delay(1000);           // wait for one second
}
```

Arduino

Code Basics

ONCE

```
/* Blink
  Turns on an LED on for one second,
  then off for one second, repeatedly.

  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 one second
  digitalWrite(13, LOW); // set the LED off
  delay(1000); // wait for one second
}
```

Arduino

Code Basics

```
/* Blink
  Turns on an LED on for one second,
  then off for one second, repeatedly.

  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);
}
```

FOREVER

```
void loop() {
  digitalWrite(13, HIGH); // set the LED on
  delay(1000);           // wait for one second
  digitalWrite(13, LOW); // set the LED off
  delay(1000);           // wait for one second
}
```

Arduino

Code Basics

```
/* Blink
  Turns on an LED on for one second,
  then off for one second, repeatedly.

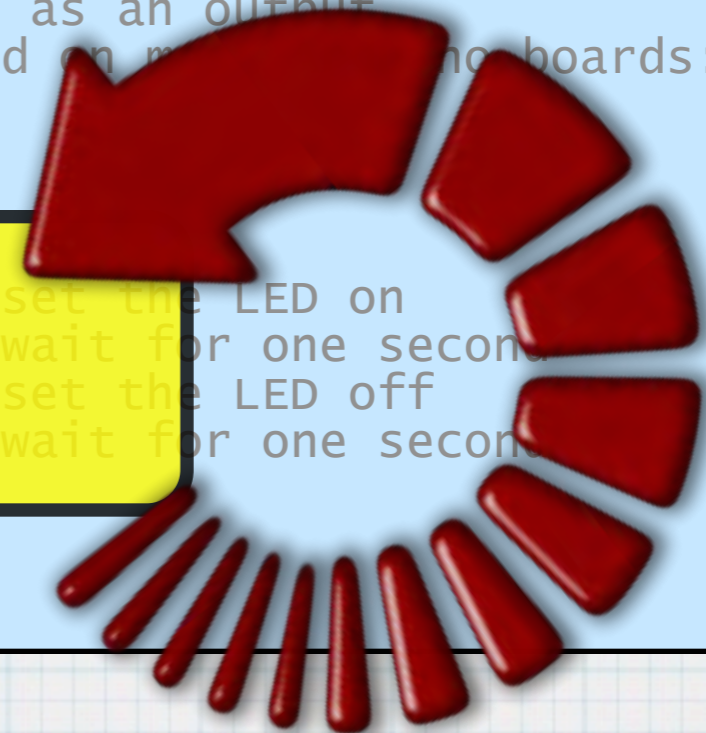
  This example code is in the public domain.
  */

void setup() {
  // initialize the digital pin as an output
  // Pin 13 has an LED connected on most boards:
  pinMode(13, OUTPUT);
}
```

```
void loop() {
  digitalWrite(13, HIGH); // set the LED on
  delay(1000);           // wait for one second
  digitalWrite(13, LOW); // set the LED off
  delay(1000);          // wait for one second
}
```

FOREVER

loop



Arduino

Code Basics

ONCE

setup

```
/* Blink
  Turns on an LED on for one second,
  then off for one second, repeatedly.

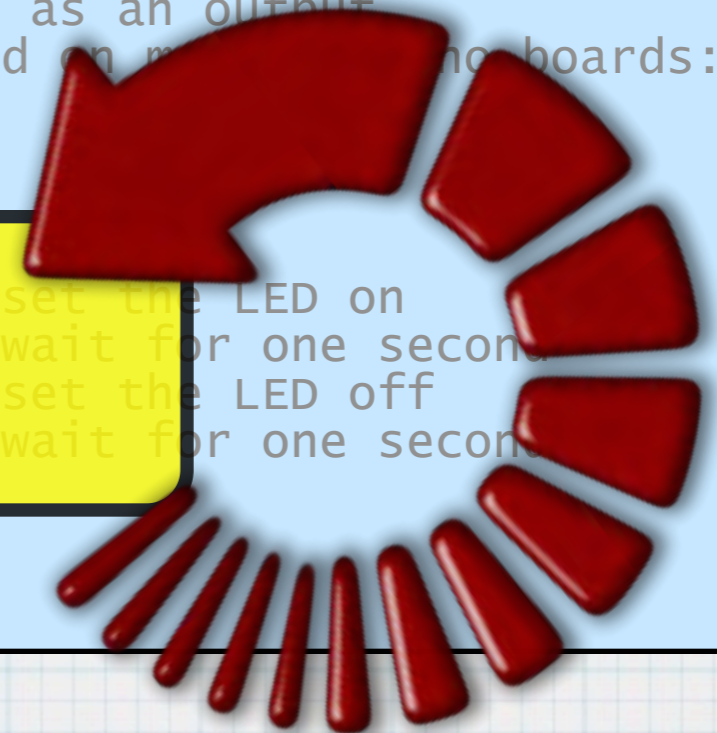
  This example code is in the public domain.
  */
```

```
void setup() {
  // initialize the digital pin as an output
  // pin 13 has an LED connected on most boards:
  pinMode(13, OUTPUT);
}
```

FOREVER

loop

```
void loop() {
  digitalWrite(13, HIGH); // set the LED on
  delay(1000);           // wait for one second
  digitalWrite(13, LOW); // set the LED off
  delay(1000);          // wait for one second
}
```



Arduino

“Hello World!”



Try It!

Blink

```
/* Turns on an LED on for one second,
then off for one second, repeatedly.

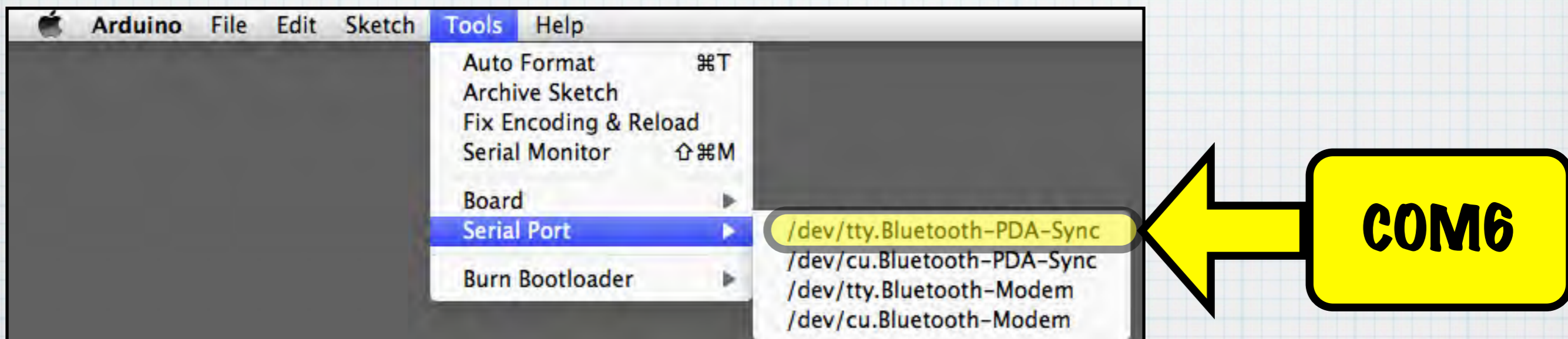
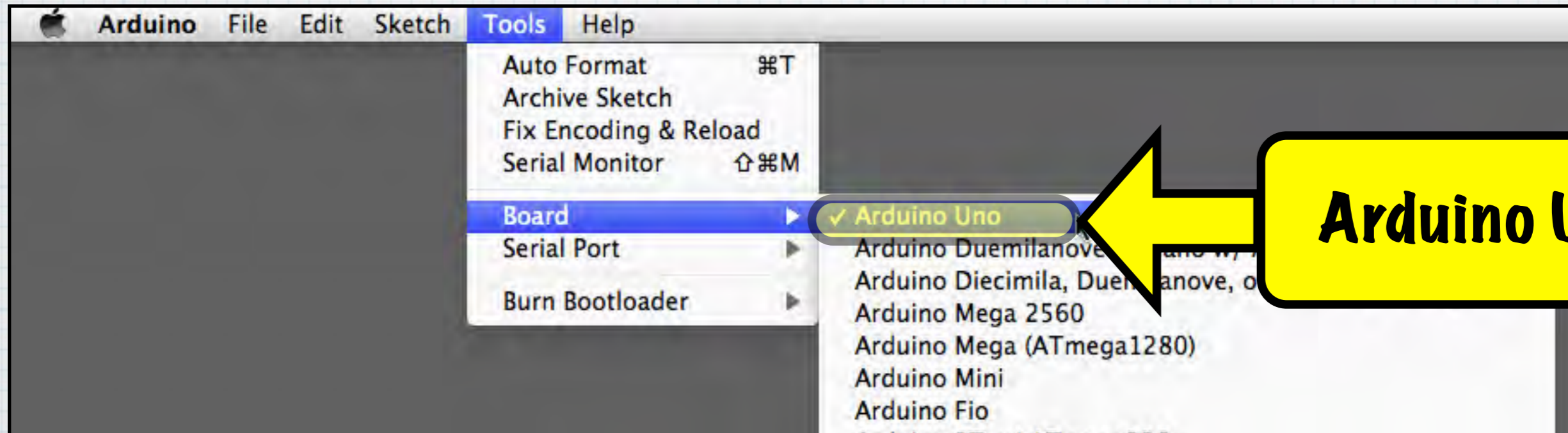
This example code is in the public domain.
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  // Pin 13 has an LED connected on most Arduino boards:
  pinMode(13, OUTPUT);
}

void loop() {
  digitalWrite(13, HIGH); // set the LED on
  delay(1000);            // wait for one second
  digitalWrite(13, LOW); // set the LED off
  delay(1000);           // wait for one second
}
```

Arduino

“Hello World!”



Arduino

“Hello World!”

The screenshot shows the Arduino IDE interface. The 'File' menu is open, and the 'Examples' submenu is expanded to '1. Basics', where the 'Blink' option is highlighted. A yellow arrow points from a yellow callout box labeled 'Blink' to the 'Blink' menu item. Below the menu, the 'Blink | Arduino 0022' window is open, displaying the following code:

```
/*
 * Blink
 * Turns on an LED on for one second, then off for one second, repeatedly.
 *
 * This example code is in the public domain.
 */

void setup() {
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  digitalWrite(13, HIGH); // set the LED on
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  digitalWrite(13, LOW); // set the LED off
  delay(1000);           // wait for a second
}
```

Code formatted for the Arduino forum has been copied to the clipboard.

Arduino

“Hello World!”

