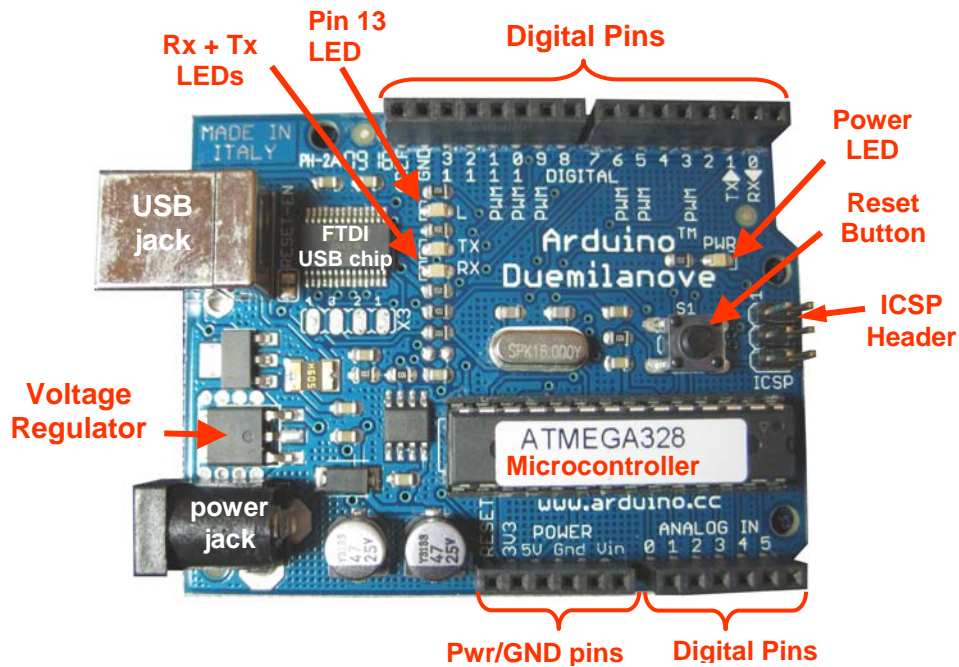


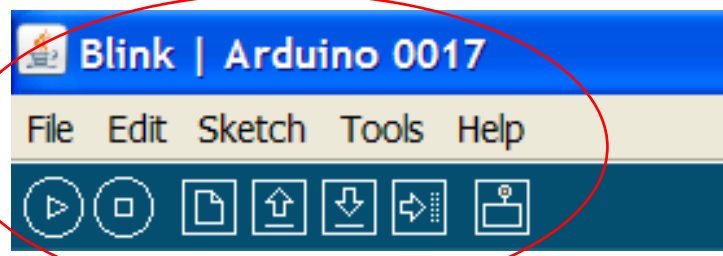
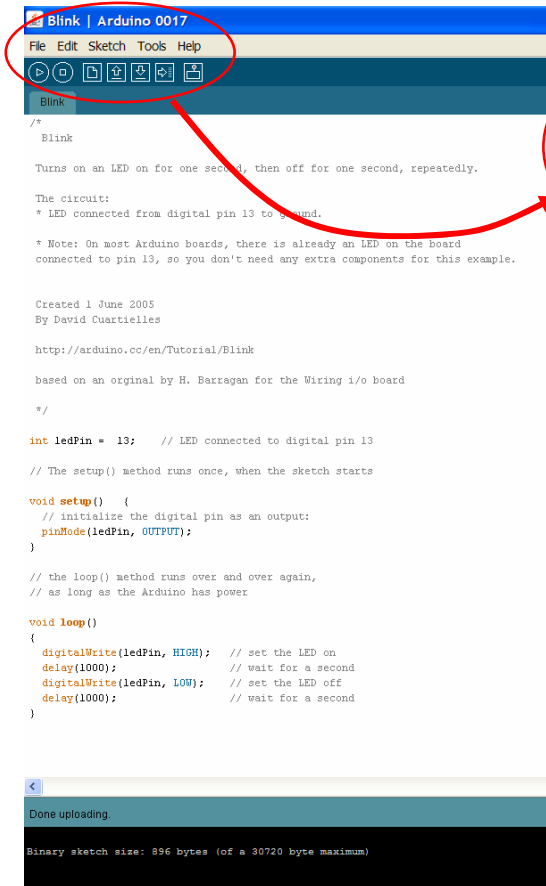
# Arduino Fundamentals

BJ Furman  
24NOV2009

## The Arduino Hardware



## The Arduino IDE



Button	Description
	Verify/Compile (compile the program (sketch))
	Stop (stop the serial monitor)
	New (start a new, blank sketch)
	Open (open an existing sketch)
	Save (save the current sketch)
	Upload (send program to the <u>Arduino</u> )
	Serial Monitor (display serial data from the <u>Arduino</u> )

## Blink Program

This program is analogous to 'hello\_world.c', and will help you verify that you can compile, upload, and run a simple program on the Arduino board. You can find this program in the Arduino IDE by selecting the drop-down menu path, File/Examples/Digital/Blink.

### Steps

1. Connect a USB cable between the PC and the Arduino.
2. Open the Arduino environment and the Blink sketch.
3. Upload Blink to the Arduino.
4. Verify that Blink runs successfully.

```
1  /*
2   Blink
3
4   Turns on an LED on for one second, then off for one second, repeatedly.
5
6   The circuit:
7   * LED connected from digital pin 13 to ground.
8
9   * Note: On most Arduino boards, there is already an LED on the board
10  connected to pin 13, so you don't need any extra components for this example.
11
12
13  Created 1 June 2005
14  By David Cuartielles
15
16  http://arduino.cc/en/Tutorial/Blink
17
18  based on an original by H. Barragan for the Wiring i/o board
19
20  */
21
22  int ledPin = 13;    // LED connected to digital pin 13
23
24  // The setup() method runs once, when the sketch starts
25
26  void setup()  {
27    // initialize the digital pin as an output:
28    pinMode(ledPin, OUTPUT);
29  }
30
31  // the loop() method runs over and over again,
32  // as long as the Arduino has power
33
34  void loop()
35  {
36    digitalWrite(ledPin, HIGH);  // set the LED on
37    delay(1000);                 // wait for a second
38    digitalWrite(ledPin, LOW);   // set the LED off
39    delay(1000);                 // wait for a second
40  }
```