Arduino Fundamentals

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The Arduino Hardware Pin 13 Digital Pins Rx + TxLED **LEDs Power** LED TAL PH-2A 79 185 9 8 7 DIGITA NX NX Pum PLIM Pum USB PLIC Reset in a **Button** ArduinoTM PHR jack RX Duemilanove **ICSP S**1 Header ICSP Voltage Regulator ATMEGA328 **Microcontroller** www.arduino.cc nower 5 ANALOG S POWER iack 47 25V **Digital Pins Pwr/GND** pins

The Arduino IDE 😹 Blink | Arduino 0017 Blink | Arduino 0017 File Edit Sketch Tools Help 重 File Edit Sketch Tools Help Blink Turns on an LED on for one then off for one 9 The circuit: ⊳ ⇔ ú * LED connected from digital pin 13 ; * Note: On most Arduino boards, there is already an LED on the board connected to pin 13, so you don't need any extra components for this example. Created 1 June 2005 By David Cuartielles Button Description http://arduino.cc/en/Tutorial/Blink based on an orginal by H. Barragan for the Wiring i/o board ⊳ Verify/Compile (compile the program (sketch)) */ int ledPin = 13; // LED connected to digital pin 13 Stop (stop the serial monitor) // The setup() method runs once, when the sketch starts void setup() { // initialize the digital pin as an output; ß New (start a new, blank sketch) pinMode(ledPin, OUTPUT); Ŷ // the loop() method runs over and over again, // as long as the Arduino has power Open (open an existing sketch) void loop() ন্ট Save (save the current sketch) digitalWrite(ledPin, HIGH); // set the LED on delay(1000); // wait for a second digitalWrite(ledPin, LOW); // set the LED off delay(1000); // wait for a second \$ Upload (send program to the Arduino) Ľ Serial Monitor (display serial data from the Arduino) Done uploading.

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 /*

- 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.

```
2
     Blink
3
    Turns on an LED on for one second, then off for one second, repeatedly.
4
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 orginal 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:
     pinMode(ledPin, OUTPUT);
28
29
   1
30
   // the loop() method runs over and over again,
31
32
   // as long as the Arduino has power
33
   void loop()
34
35 {
    digitalWrite(ledPin, HIGH); // set the LED on
36
37
    delay(1000); // wait for a second
38
     digitalWrite(ledPin, LOW); // set the LED off
39
     delay(1000);
                                 // wait for a second
40 }
```