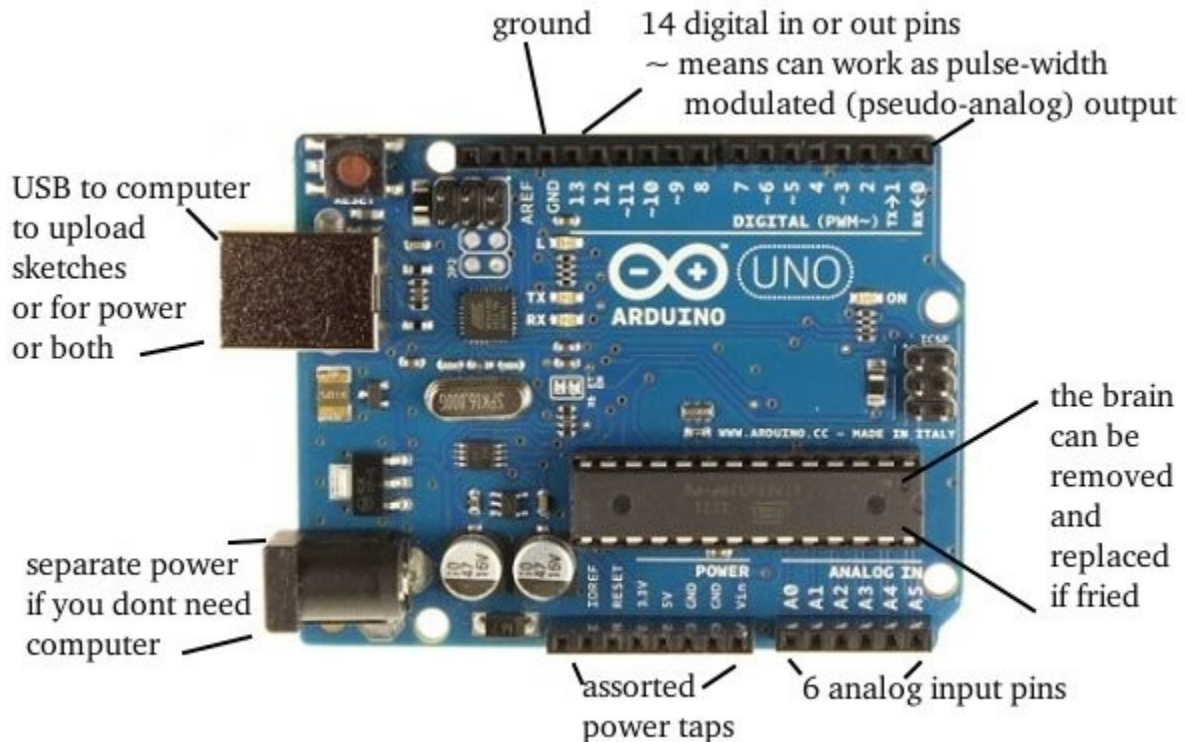# Arduino Board

You have Arduino Uno Rev 3.   Take a look and identify the various pins etc.

Make sure, when you work, that it's sitting on an INSULATING SURFACE.

The Arduino gets power either from the USB cable, or from the separate power jack.   You don't need both.   If you are working with a computer, just use the USB since you'll also use it for communication and uploading code to the Arduino board.   Once you have a program "done" and working though, the device could run with power supplied and no connection to the computer.
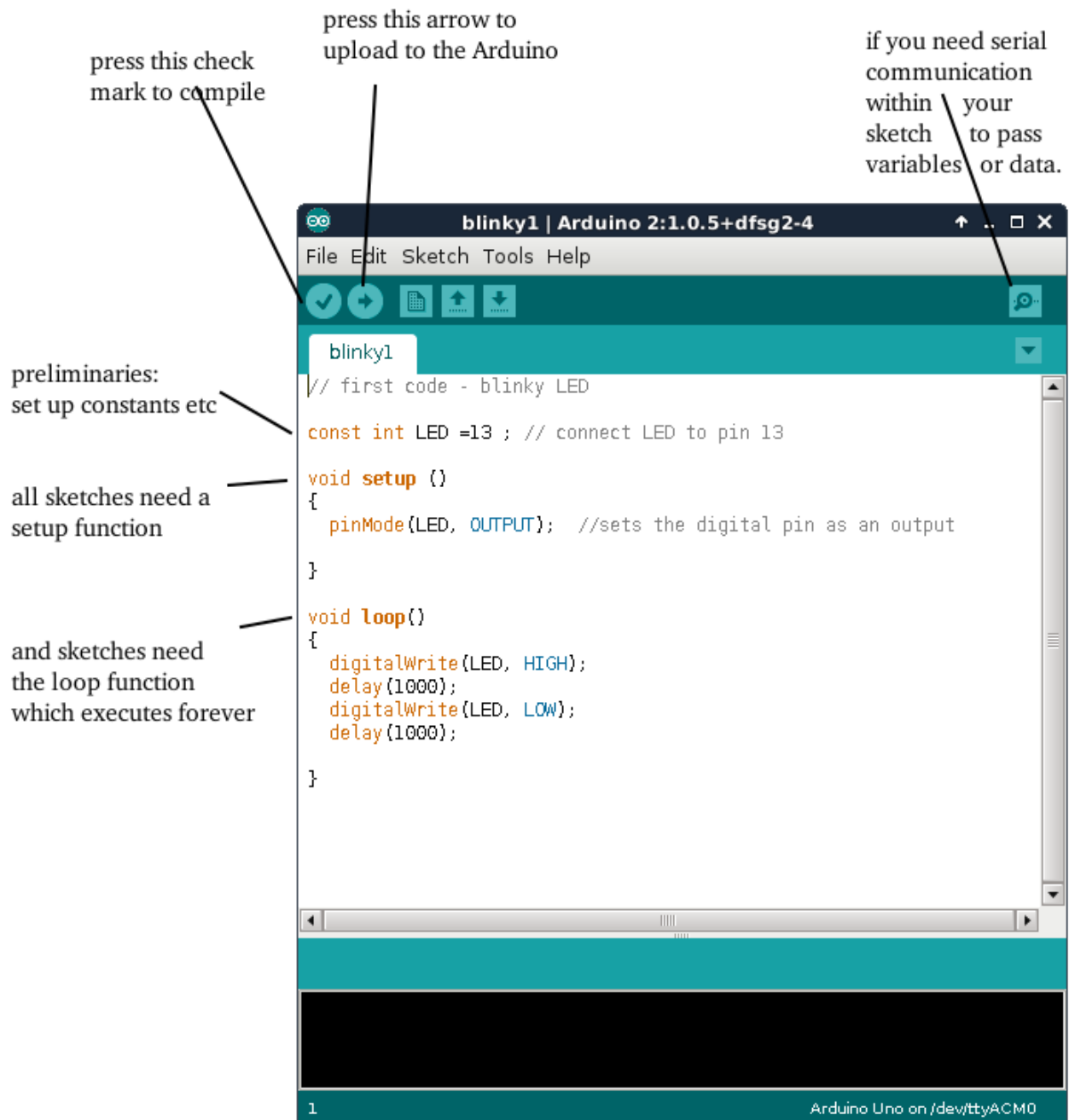
Note that the Arduino digital pins can NOT SUPPLY MUCH POWER.   They are limited to ~30 mA at 5 V.   If you try to suck more current out of them, you will DAMAGE THE BOARD.   You must always consider how much current your circuits will draw.

The power tap pins also have severe current limits.   Make sure your circuit draws:
*   <150 mA for the 3.3 V tap, and*
*   < 400mA for the 5 V.*

Arduino IDE

Software you write, that runs the Arduino, are typically known as "sketches".   Do your code development using the Arduino IDE (Integrated Development Environment).   You should download and install this from https://www.arduino.cc/en/Main/Software .   It is free and open source.

The IDE gives you a GUI interface.   Here's a screenshot of a sketch called `blinky1`   .

press this check
mark to compile

press this arrow to
upload to the Arduino

if you need serial
communication
within \ your
sketch   \ to pass
variables\ or data.

preliminaries:
set up constants etc

all sketches need a
setup function

and sketches need
the loop function
which executes forever

blinky1 | Arduino 2:1.0.5+dfsg2-4

File Edit Sketch Tools Help

blinky1

```
// first code - blinky LED

const int LED =13 ; // connect LED to pin 13

void setup ()
{
   pinMode(LED, OUTPUT);  //sets the digital pin as an output

}

void loop()
{
   digitalWrite(LED, HIGH);
   delay(1000);
   digitalWrite(LED, LOW);
   delay(1000);

}
```

1   Arduino Uno on /dev/ttyACM0

General Electronics Suppliers

commercial grade stuff: both are very fast shipping, quite cheap, but have a bewildering nightmare of too many choices in catalog.

       www.digikey.com

       www.mouser.com

hobbyist stuff:

       www.jameco.com   these guys are halfway between hobbyist and pro

       www.adafruit.com

       www.sparkfun.com

Most of the components in these kits came from sparkfun and adafruit.   They have datasheets available on their websites if you want additional info about the devices.   They both have a lot of fun tutorials and instructions, too.

in town:

       Goldcrest Electronics   700 South Goodman St, Rochester 14620
                               546 – 8464
                               open M-F 8 AM to 5 PM, Saturday 9 AM – 3 PM, closed Sunday

       Radio Shack is still open on West Ridge Road near the Best Buy, and has a few components