

# Setting Up Arduino

Spring 2026

# Setting up Arduino IDE

- We will be using the Arduino IDE (and writing “C++”)
- IDE stands for Integrated Development Environment.
  - Write your code
  - Compile your code
  - Download your code to the robot
- First, download Arduino IDE from this website (<https://tinyurl.com/arduinoDownload> ) if you want to set it up on your own computer

# Legacy Moment

Please download this version  
(find it by scrolling down the Downloads page)

## Legacy IDE (1.8.X)



### Arduino IDE 1.8.19

The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. This software can be used with any Arduino board.

Refer to the [Arduino IDE 1.x documentation](#) for installation instructions.

#### SOURCE CODE

Active development of the Arduino software is [hosted by GitHub](#). See the instructions for [building the code](#). Latest release source code archives are available [here](#). The archives are PGP-signed so they can be verified using [this](#) gpg key.

#### DOWNLOAD OPTIONS

**Windows** Win 7 and newer

**Windows** ZIP file

**Windows app** Win 8.1 or 10



**Linux** 32 bits

**Linux** 64 bits

**Linux** ARM 32 bits

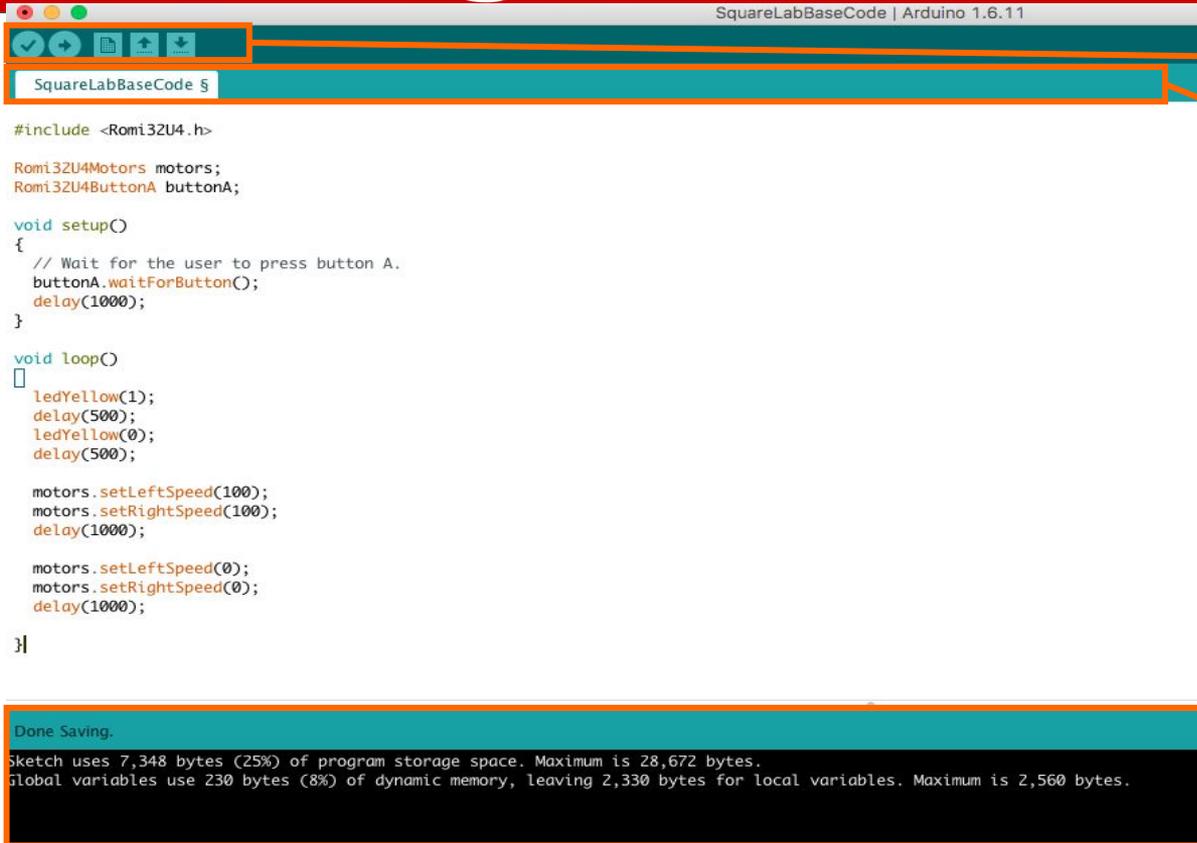
**Linux** ARM 64 bits

**Mac OS X** 10.10 or newer

[Release Notes](#)

[Checksums \(sha512\)](#)

# Using Arduino



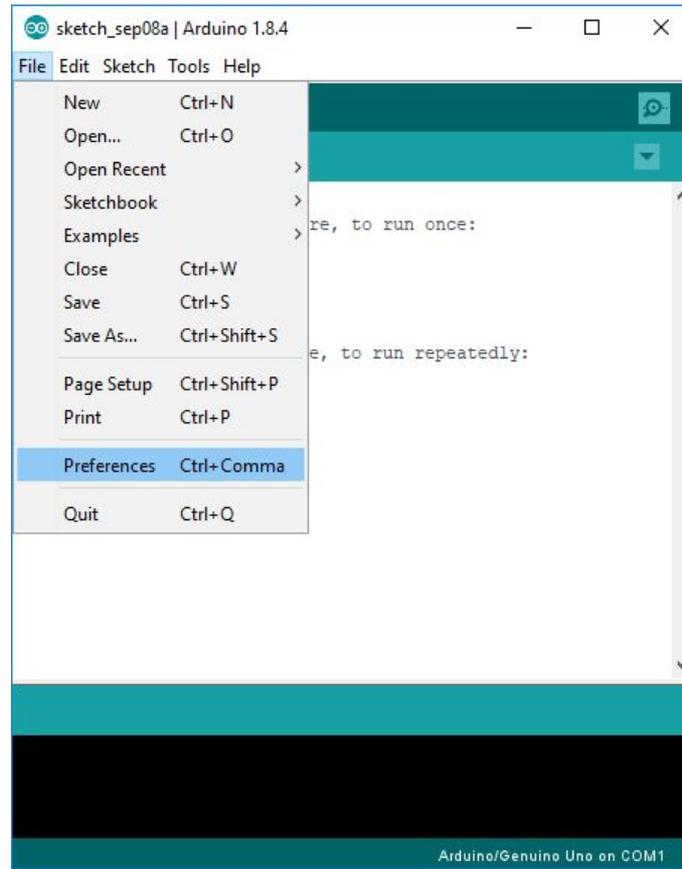
Tool bar

File tabs

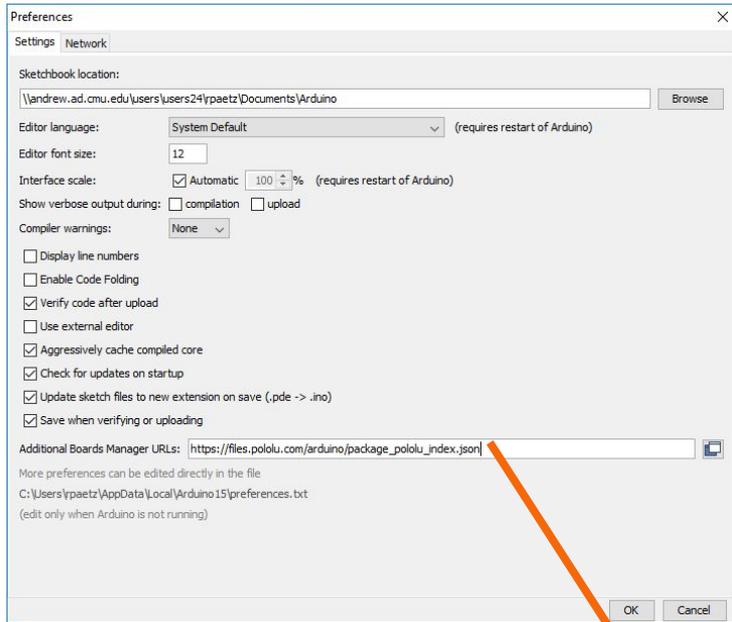
Current file

Output

# Setting Up Arduino

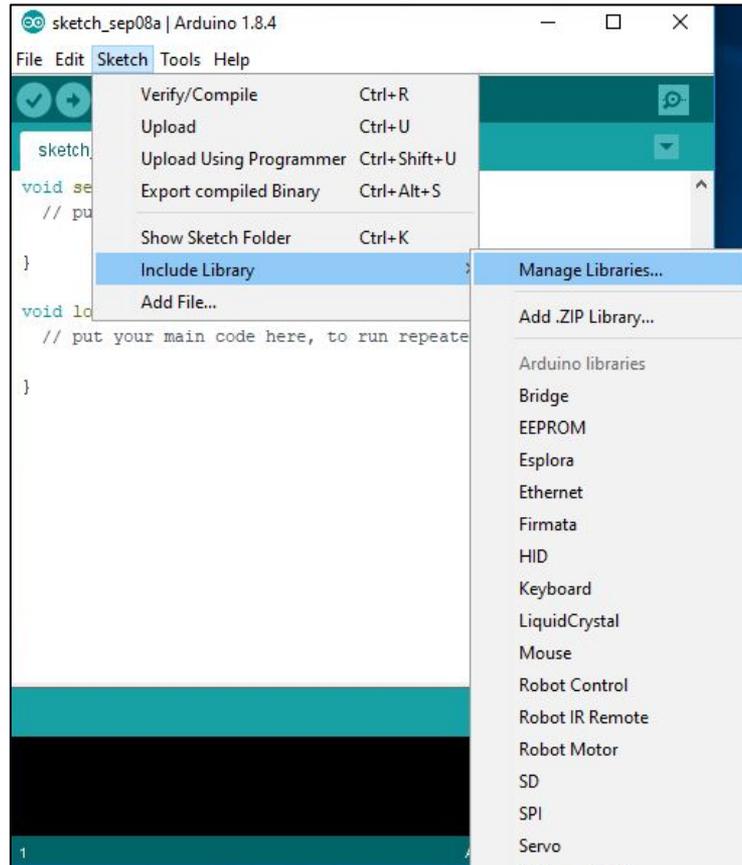


# Setting up Arduino

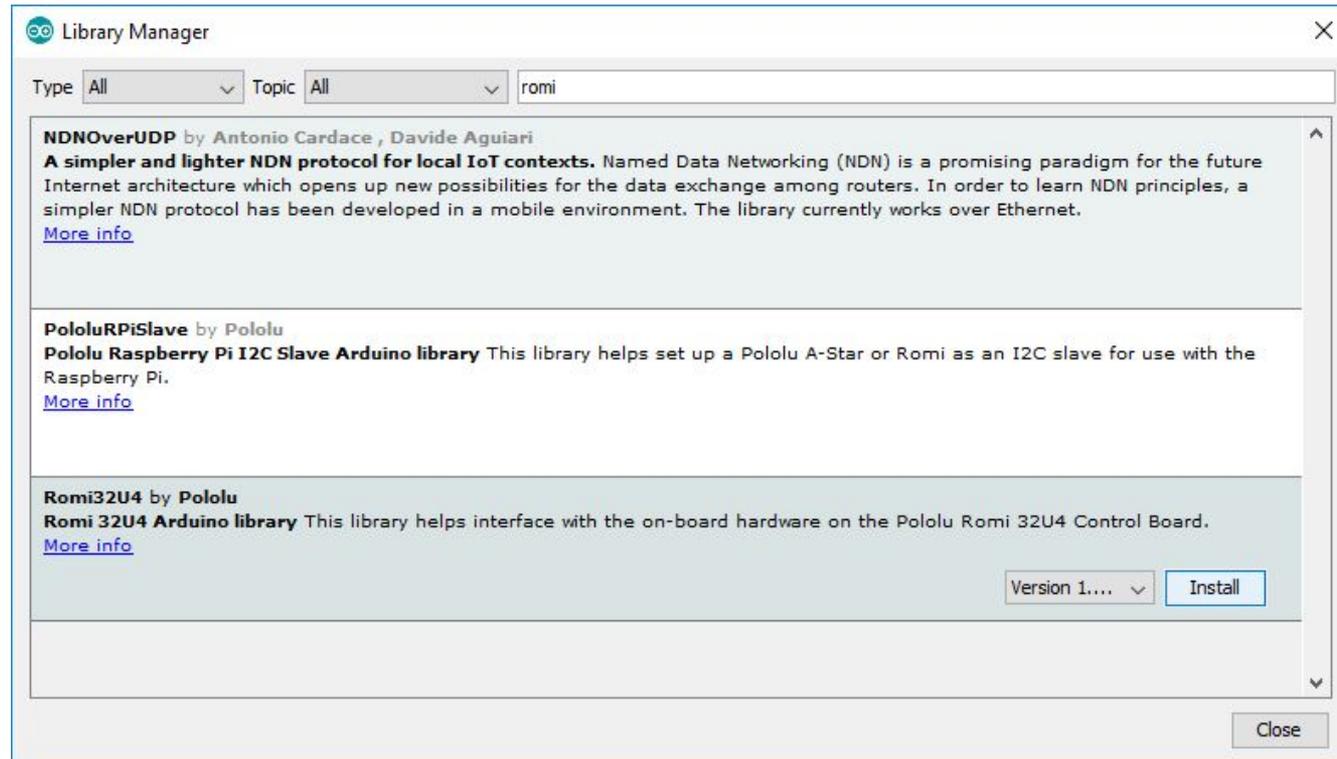


[https://files.pololu.com/arduino/package\\_pololu\\_index.json](https://files.pololu.com/arduino/package_pololu_index.json)

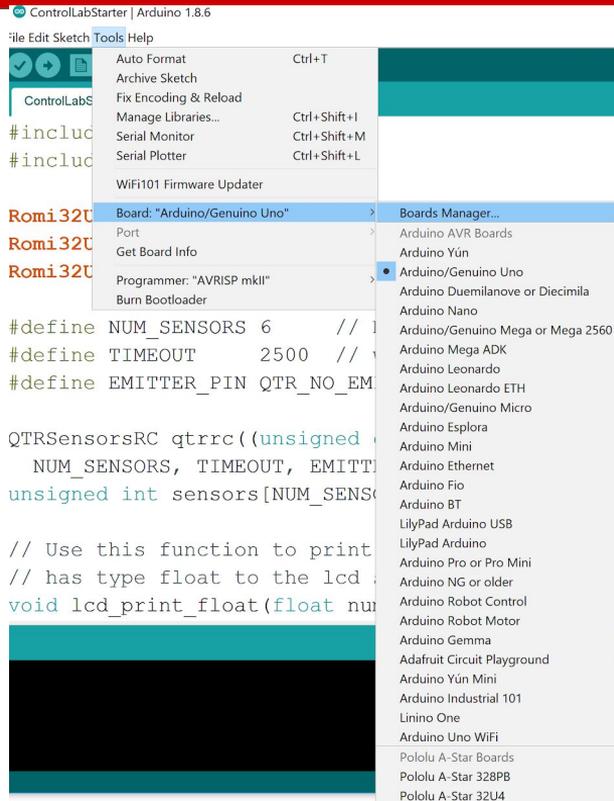
# Setting up Arduino



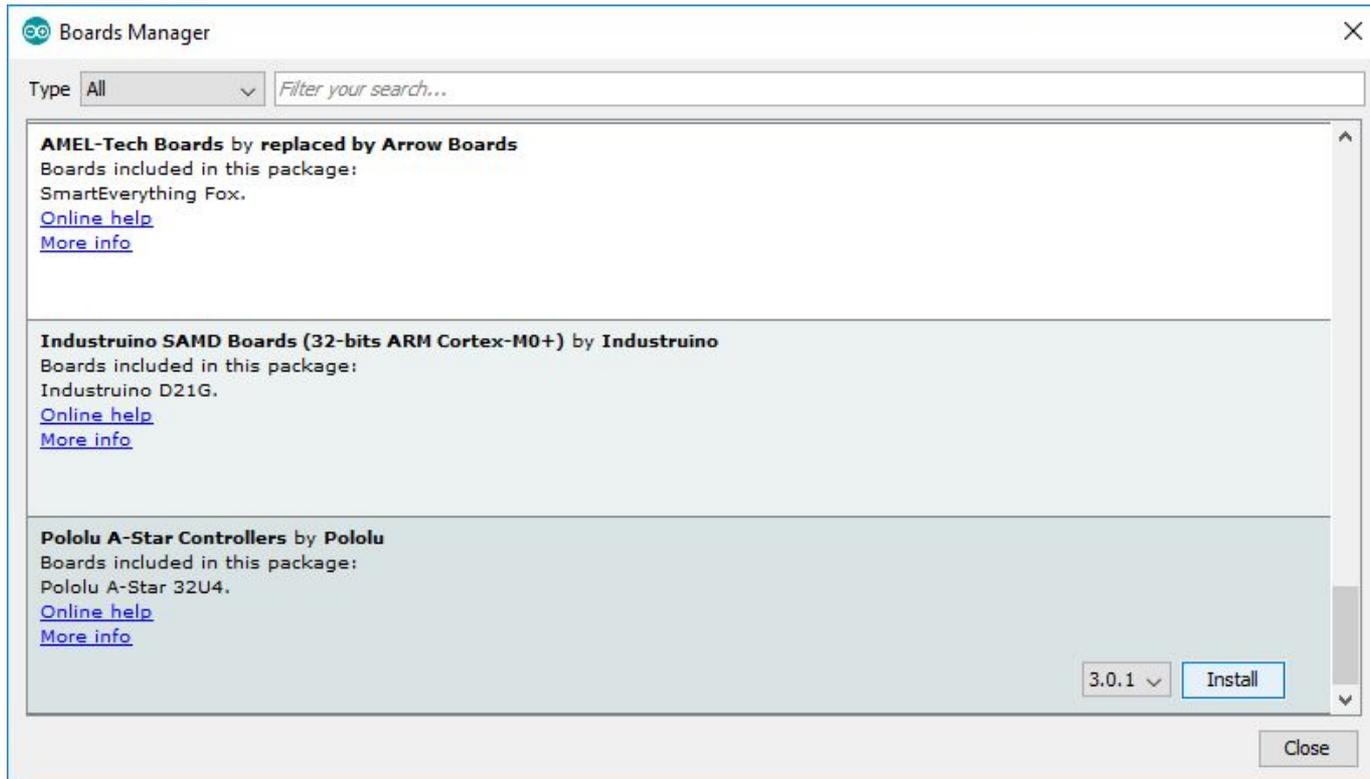
# Setting up Arduino



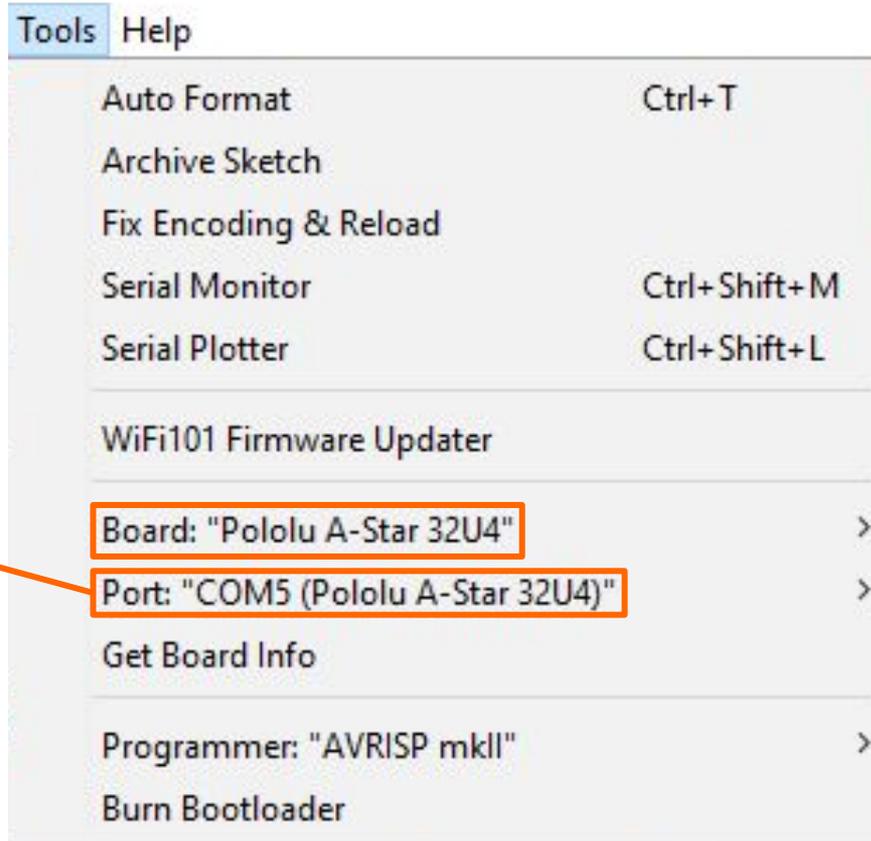
# Setting up Arduino



# Setting up Arduino

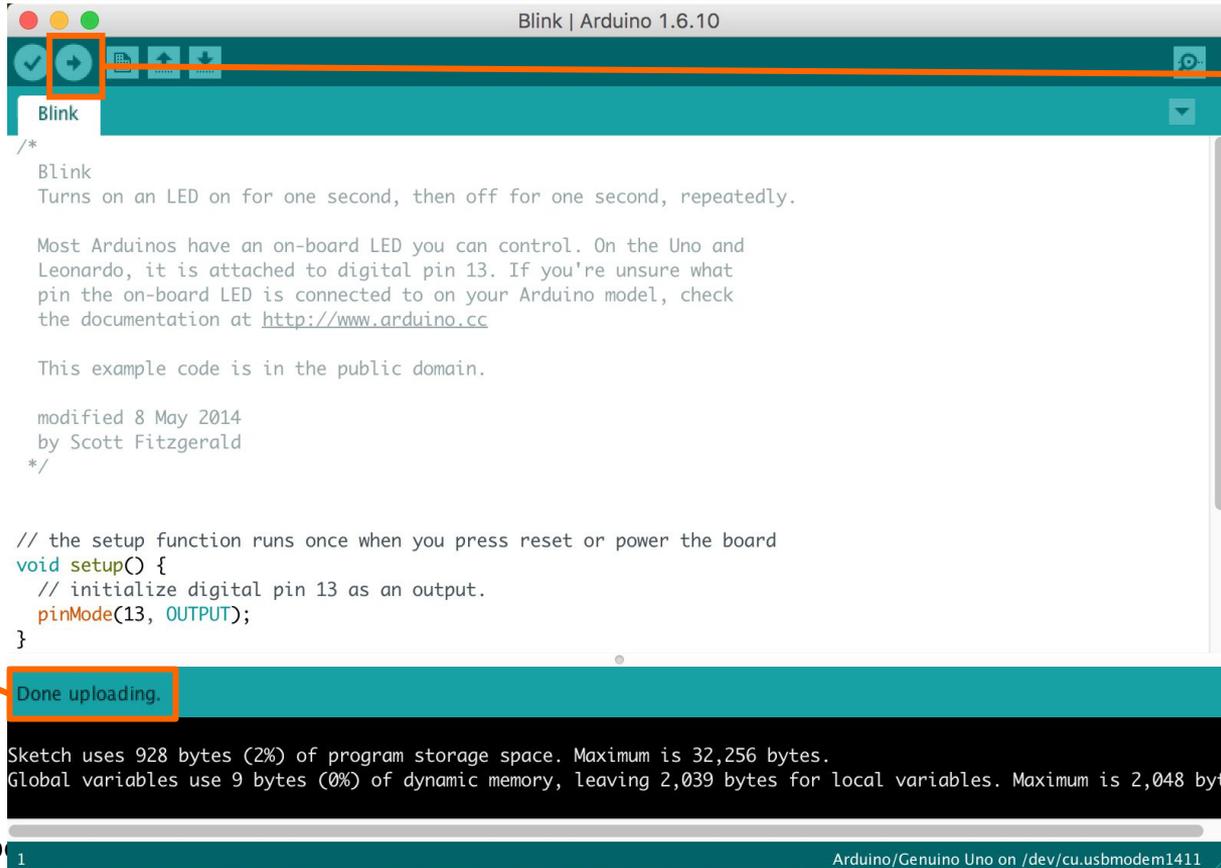


# Selecting correct settings



Don't forget to pick your programmer's port too!!

# Uploading Code



All  
Good!

# Code Skeleton Breakdown

```
#include <Romi32U4.h>
```

Includes Libraries

```
Romi32U4Motors motors;  
Romi32U4ButtonA buttonA;
```

Creates Objects

```
void setup()  
{  
  // Wait for the user to press button A.  
  buttonA.waitForButton();  
  delay(1000);  
}
```

Set-Up Code  
(Only Runs Once!)

```
void loop()  
{  
  ledYellow(1);  
  delay(500);  
  ledYellow(0);  
  delay(500);  
  
  motors.setLeftSpeed(100);  
  motors.setRightSpeed(100);  
  delay(1000);  
  
  motors.setLeftSpeed(0);  
  motors.setRightSpeed(0);  
  delay(1000);  
}
```

Main Code  
(Loops Until Robot is  
Turned Off)

# Code Command Breakdown

```
// Run once, when the sketch starts
void setup() {
  uint16_t batteryLevel;

  // Loop the code within { } until A is pressed
  while (!buttonA.isPressed()) {
    // read the battery level and store it in a variable
    batteryLevel = readBatteryMillivolts();

    lcd.clear(); // clear the LCD
    lcd.print("B=");
    lcd.print(batteryLevel); // print the battery voltage
    lcd.print("mV");
    lcd.gotoXY(0, 1);
    lcd.print("Press A");

    delay(100); // Pause for 100ms
  }
  lcd.clear();

  delay(500);
}
```

Comments!  
Allows programmer to  
write notes without  
influencing code

Waits to run the code  
until button A is  
pressed

LCD prints "Press A"

# Code Command Breakdown

```
void loop()
```

```
{
```

```
  ledYellow(1);  
  delay(500);  
  ledYellow(0);  
  delay(500);
```

```
  motors.setLeftSpeed(100);
```

```
  motors.setRightSpeed(100);
```

```
  delay(1000);
```

```
  motors.setLeftSpeed(0);  
  motors.setRightSpeed(0);  
  delay(1000);
```

```
}
```

Set left motor at  
power level 100  
(-200 to 200)

Set right motor at  
power level 100  
(-200 to 200)

Stop thinking (allow  
current setting to  
continue) for 1000 ms

# Remember the Semicolon!

There must be a semicolon (;) at the end of every line!

```
void setup()
{
  // Wait for the user to press button A.
  buttonA.waitForButton();
  delay(1000);
}
```

