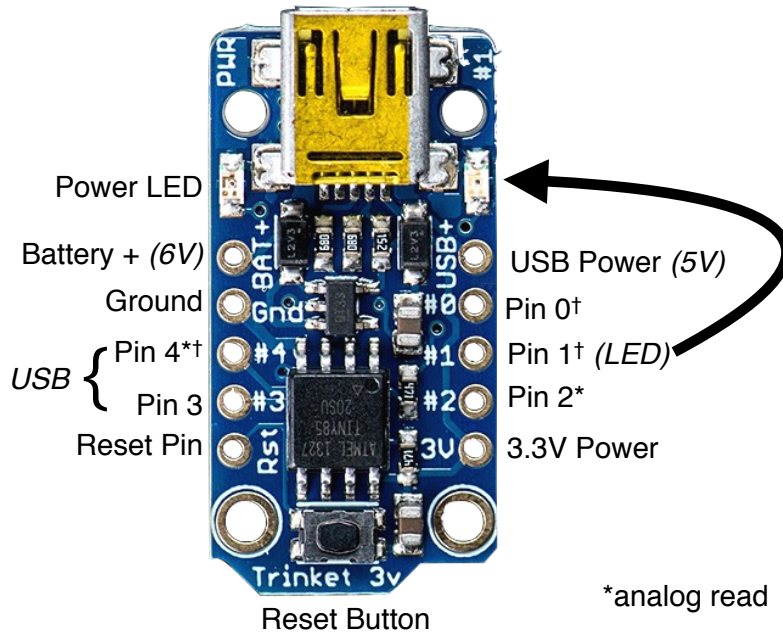


Trinket Reference Sheet Eli Whitney Museum / Week 9

Name: _____

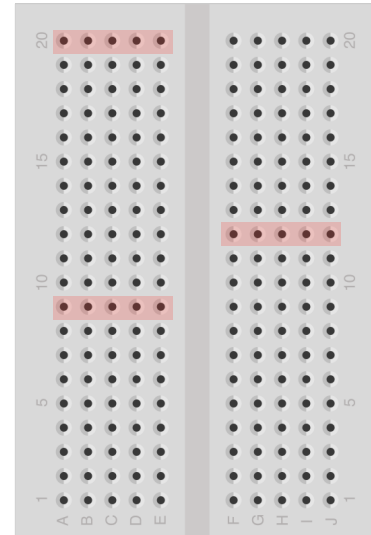
link tiny.cc/rover9



*analog read
 †analog write

Upload programs when **Red LED** is blinking.
 Press reset button or plug in to computer.

Breadboard

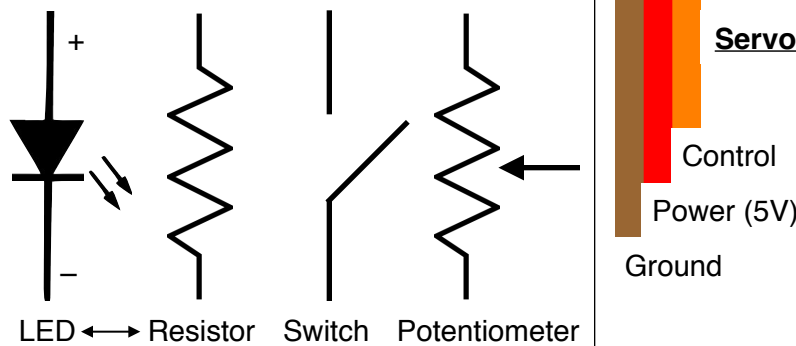


Horizontal holes are connected (per side).

Conditionals:

```
if(a == b) {
  // do this if a=b
} else if (a > b) {
  // do this if a>b
} else {
  // otherwise do this
}

while(a == b) {
  // loops while a = b
}
```



Every program needs:

```
#include <rover.h>
void setup() {
}

void loop() {
}
```

Basic Functions:

```
pinMode(pin#, INPUT/OUTPUT);
digitalWrite(pin#, HIGH/LOW);
digitalRead(pin#); → HIGH/LOW
analogRead(pin2or4); → 0 to 1023
analogWrite(pin0,1,4, 0 to 255);
delay(#ofMilliseconds);
```

Variables:

```
// declaration:
int foo = 0;

// set value
foo = digitalRead(0);
```

Robot Functions:

```
rover(leftPin, rightPin);

start();
stop();

straight(-60 to 60);

turnL(-60 to 60);
turnR(-60 to 60);
rotate(-60 to 60);

// cal values are 0 to 1
cal(left, right)
```

Windows

You need to install a driver. It is in the “usbtiny-driver” folder. Run the Installer.

Mac

You might get an error telling you that the program is damaged.

It isn't.

Control-click on the app and select “Open”.
If that doesn't work, Open System Preferences > Security > “Allow apps downloaded from:”
Anywhere.

Setting Up Arduino at Home

1. Go here: tiny.cc/rover9
2. Download the Arduino software (it'll take a while).
3. Download your programs.
4. In Arduino, choose Tools > Board > **Adafruit Trinket 8 MHz**
5. Then choose Tools > Programmer > **USBtinyISP**
6. Remember to press the reset button before uploading.

Buying Components at Home

Adafruit sells the Trinkets, as well as many other components. www.adafruit.com
Sparkfun also sells components, but not the Trinkets. www.sparkfun.com
Robotshop sells the servos and other robot stuff. www.robotshop.com

You can also get components on Amazon and your local Radioshack.

A part list is posted on the class web page.