Tiny Bread Duino Assembly and Instructions
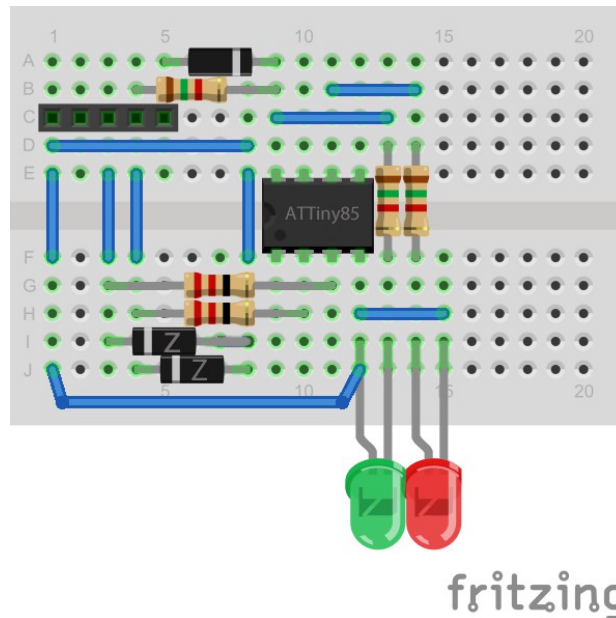
This circuit can be assembled for less than $5 using wholesale prices and overseas suppliers.

STEP 1.
Assemble and solder the USB breakout.

STEP 2.
Assemble the circuit as shown below. Work from the top down. The 5 pin header shown below shows the positioning for the USB breakout board. Make your jumpers neat and cut leads to achieve the look shown below. Diodes marked Z are 3.6V zener diodes (2). The diode at the top is a 1N4148 (1).

STEP 3.
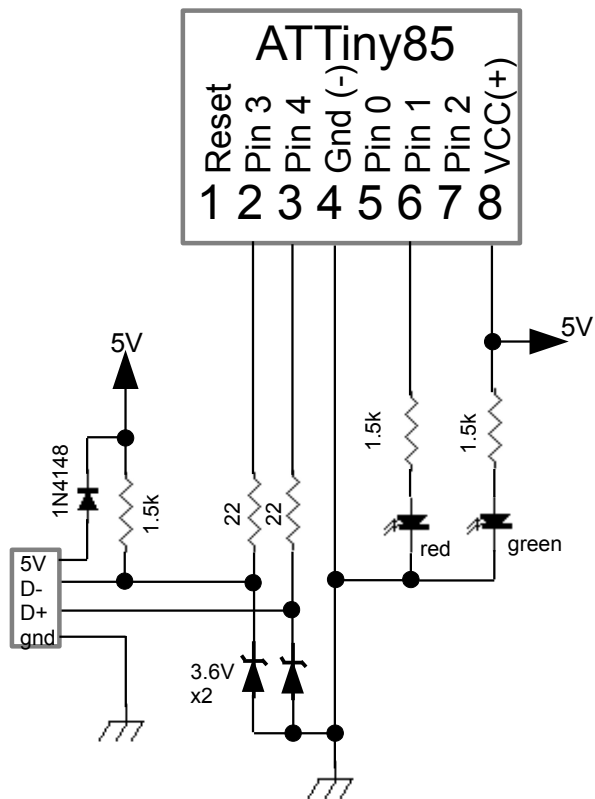Install the Digispark Windows Driver to your computer.

STEP 4
Load the Digistump AVR Boards by Digistump using the Boards Manager in Arduino. Select "Digispark (default-16.5 Mhz)" board in Arduino. Do not plug your board into the computer.

STEP 5
Load the BlinkBreadDuino program found in Github or in the shared cloud folder https://goo.gl/QbjK1i. The Green LED is a power LED. The red LED is connected to Pin 1 (address) (pin 6 physical).

NOTES
1. Github also contains the micronucleus boot loader that can be "burned" to the chip using an AVR programmer. This is in an archive called "isp.zip".
2. If the Bread Duino is run from an external supply then 2 capacitors, 0.1uF and 10uF should be added between supply plus and minus, near the chip on the breadboard.
3. The cloud folder at https://goo.gl/QbjK1i contains USB drivers and also contains an older version of the Arduino IDE in the Digispark-Arduino-1.0.4.zip archive.
4. The Digispark Windows drivers (USB) is also on Github.

ATTiny85

```
          ATTiny85
  Reset Pin 3 Pin 4 Gnd(-) Pin 0 Pin 1 Pin 2 VCC(+)
   1    2     3     4      5     6     7     8
```

5V

1N4148

1.5k

5V
D-
D+
gnd

22 22

1.5k 1.5k

3.6V
x2

red   green

5V

Handy Reference Chart

physical pin	Pin	Analog
1	Reset	
2	3	Input 3
3	4	Input 2
4	Gnd	
5	0	PWM,AREF,MOSI
6	1	PWM, MISO, Red LED
7	2	Input 1, SCK
8	VCC	Green LED