Arduino Dice

by nick_rivera on June 30, 2013

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Intro: Arduino Dice

This instructables will show you how to create electronic dice out of an Arduino and a few other components.

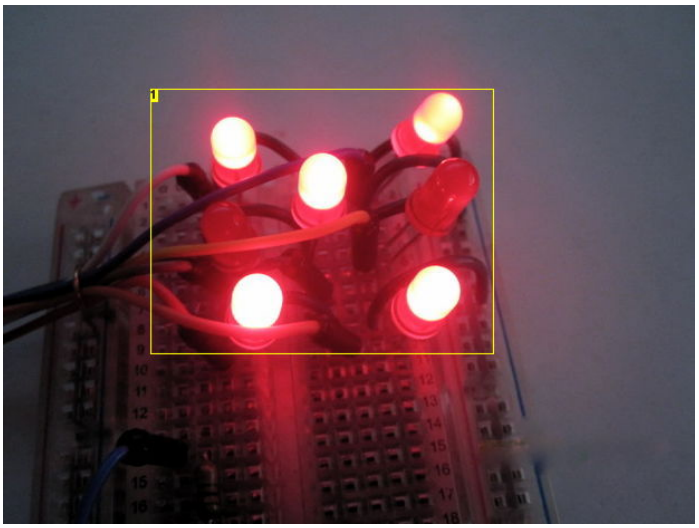


Image Notes
1. Five!

Step 1: Parts

What you will need:
18 Jumpers (11 large 7 small)
7 LEDs (I used red ones)
Pushbutton
Resistor (I used 100ohm, 10 ohm would work too)
Solderless breadboard
Arduino (+usb cable for connection)
Optional: small strapdown copper jumpers
Tools:
Wire cutters
Computer

Okay, lets build it.

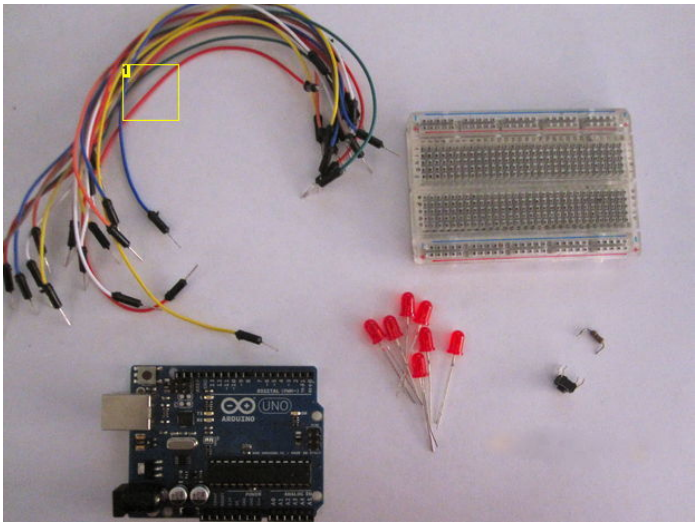
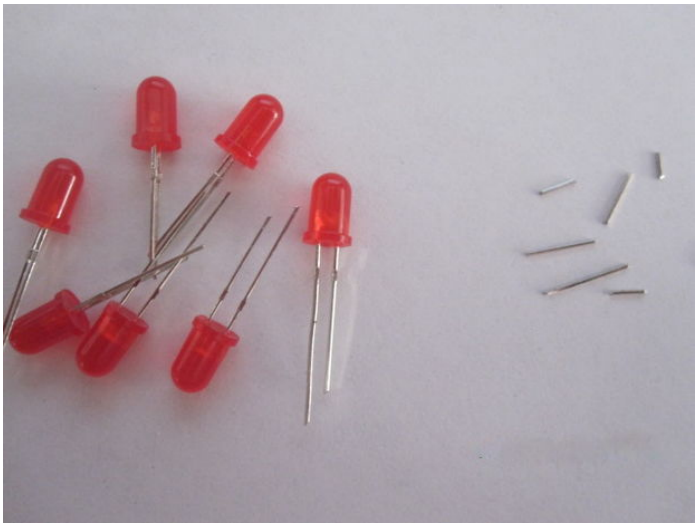


Image Notes
1. Optional but recommended- some small jumper wires

Step 2: LEDs

First start by cutting the leds shorter, so they fit better on the breadboard.

Then start aranging them onto the board, having the negative side of the leds point to the left. LED 1 goes between pins (1-,2+)
LED 2 goes on (5-,6+) and LED 3 on (9-,10+). LED 4, in the middle, must be streched between (4-, 7+). The last 3 LEDS go directly below the first 3 leds, but on the other side of the breadboard.



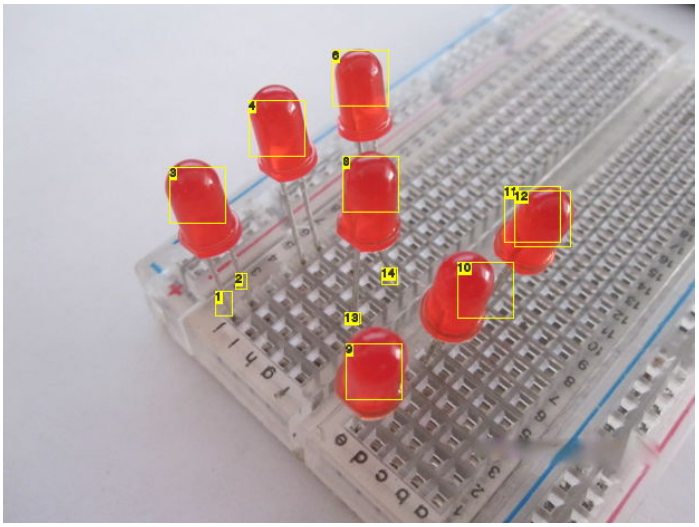


Image Notes
1. -negative
2. positive
3. LED1
4. LED2
5. LED3
6. LED3
7. LED4
8. LED4
9. LED5
10. LED6
11. LED7
12. LED7
13. Negative for LED4 on 4
14. Positive for LED4 on 7

Step 3: Connect LEDs to ground

Grab your jumpers (for this step I used the smaller jumpers to make life easier) and connect all of the negative(-) sides of the LEDs to the ground rail.

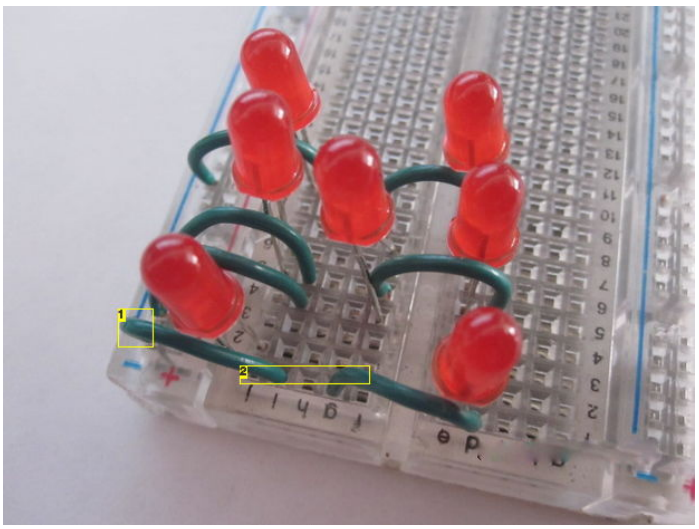


Image Notes
1. All of the negative sides of the leds are connnected to the ground rail
2. Optional- smaller jumpers make it easier to manage.

Step 4: Jumpers to the arduino

Now, get out your large jumpers, and put a jumper onto each positive(+) side of the leds. It is much easier if you color code the jumpers, it will help later. Also connect a large jumper to the ground rail, and that will connect to the ground on the arduino. In the list it was optional, but I used a small peace of coated copper wires to hold all the large jumpers down.

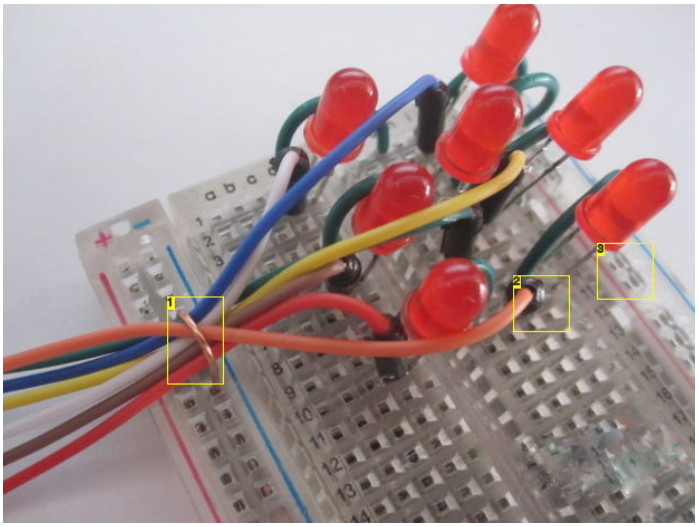


Image Notes
1. Used copper wire to hold all the jumpers into place
2. Each jumper connected to the ( ) side of the leds
3. Connect another jumper to the ground rail

Step 5: Pushbutton

Now, we connect the pushbutton. Start by placing the pushbutton onto the board, between the crack in the board. I used a 100kohm resistor, but others would work too. Place said resistor onto the board coming off of one of the pushbutton sides (see the diagram for further understanding).

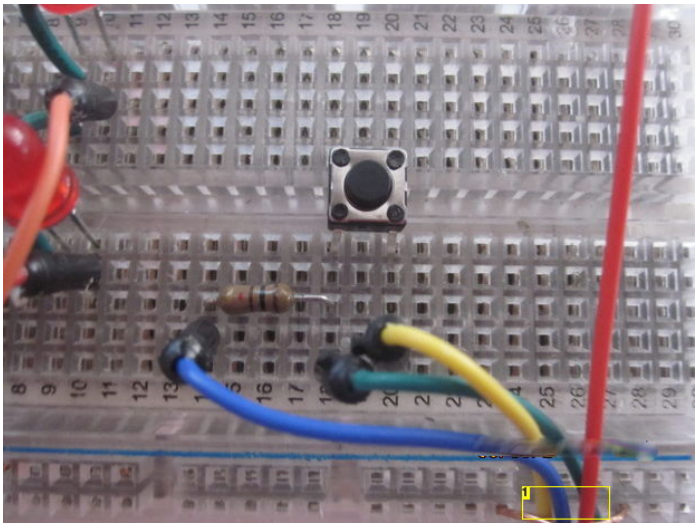
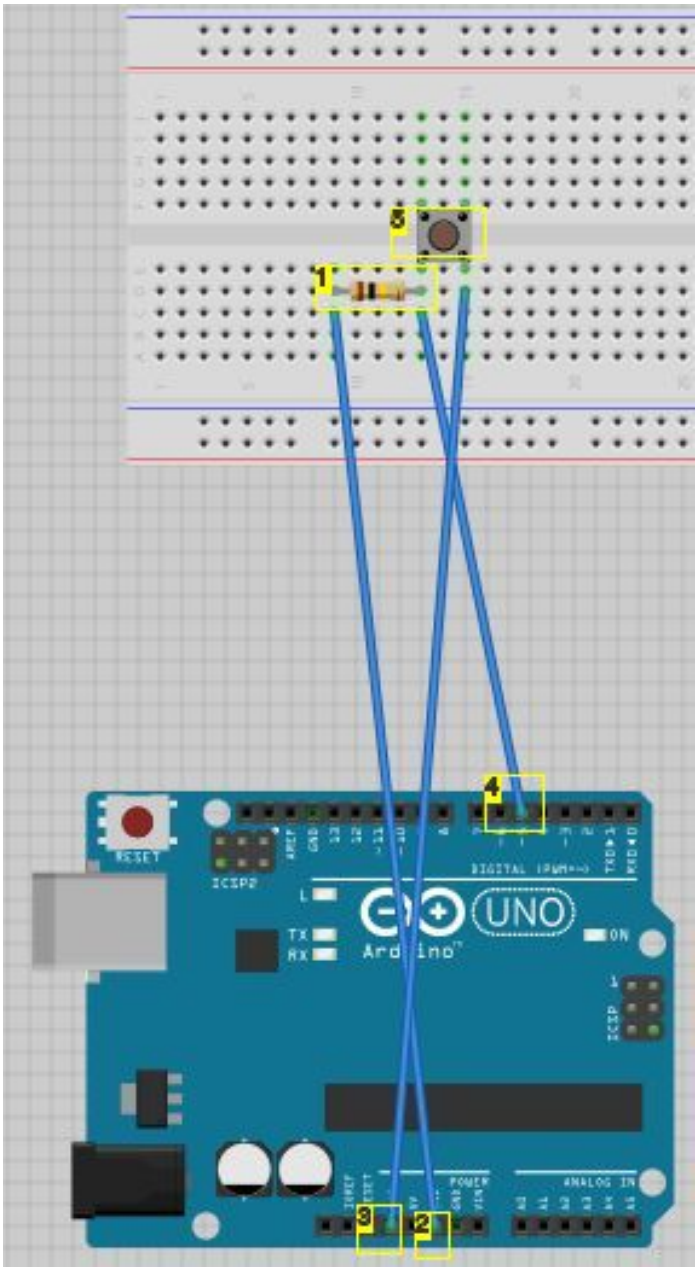


Image Notes
1. another copper tie-down
:|
its an ocd...



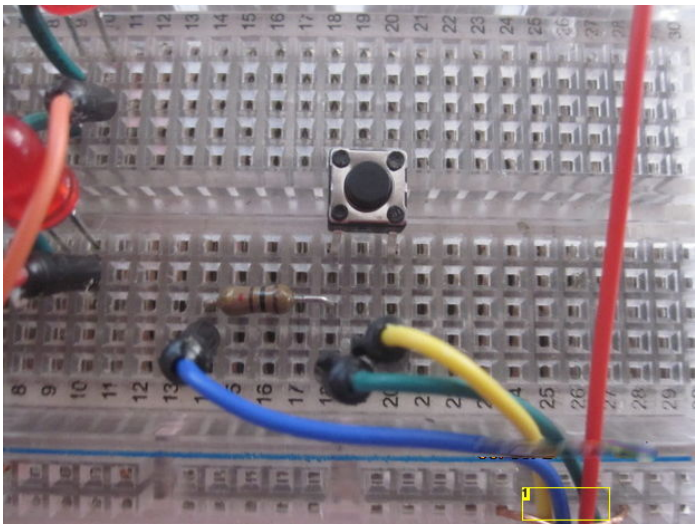


Image Notes
1. Said resistor
2. Connected to gnd
3. 3.3V on arduino
4. Pin ~5
5. Pushbutton

Step 6: Connect the jumpers to the Arduino

Now, we connect the jumpers onto the arduino board itself.
LED1/Pin 12
LED2/Pin ~11
LED3/Pin ~10
LED4/Pin ~9
LED5/Pin 8
LED6/Pin 7
LED7/Pin ~6
GND/GND :o

If you did not already connect the pushbutton to the arduino board, the previous step shows that.

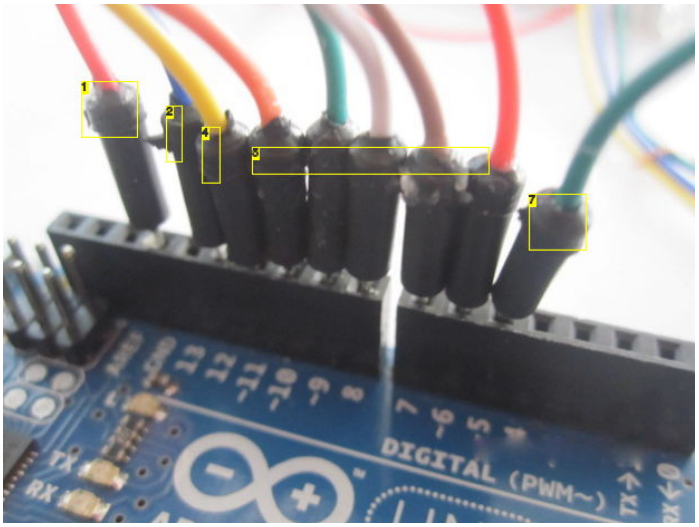
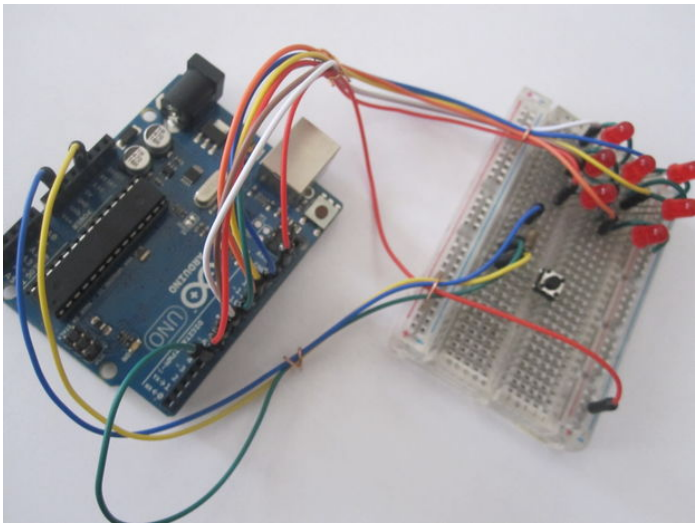


Image Notes
1. GND connected to the gnd rail on the breadboard
2. LED1/Pin 12
3. LED2/Pin ~11
4. LED2/Pin ~11
5. and so forth
6. Pushbutton
7. Pushbutton

Step 7: Code!

Now, connect the arduino board to your computer and upload this code.



File Downloads

ArduinoDie.ino.zip (670 bytes)
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'ArduinoDie.ino.zip']

Related Instructables

LED Die with Arduino by braulio777

TinyDice LED die (Arduino compatible) (Photos) by emihackr97

Led Dice by agupta52

Arduino Five Pin LED Matrix Dice by simonfrfr

Arduino: Electronic Dice (using random numbers) by redryno1221

ATtiny85/45/25 LED dice (Super simple and CHEAP!) by xBacon