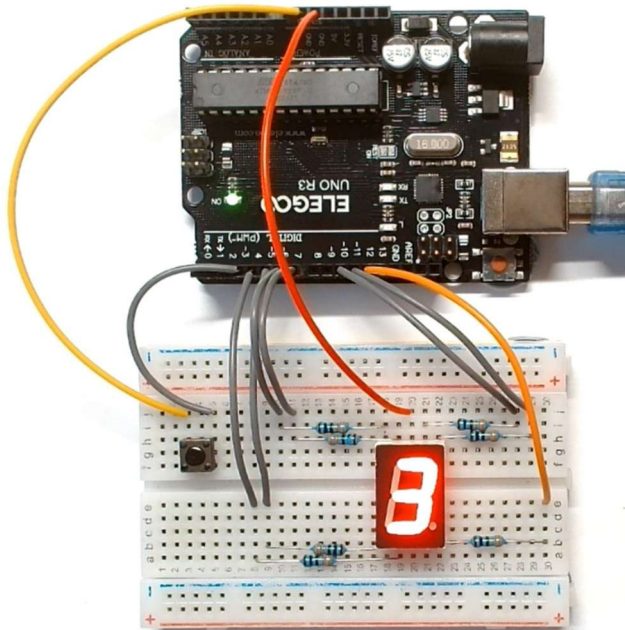


Build your Arduino Digital Dice Project



The Arduino Digital Dice is a great project for beginners in Arduino, and for anyone who likes to construct and learn from unique and attractive electronics projects.

The dice scores are shown as a digital number from 1 thru 6 on a 7-Segment display, under the control of the Arduino software.

Press the **Roll!** Button to roll the dice. It rolls for as long as you hold it pressed, and when you release it, the dice display shows your lucky score.

This project is for the purposes of fun and amusement only, and totally random scores can't be guaranteed.

Project and software designed in Britain by *The Electronics Kit Shop*.



The Electronics Kit Shop

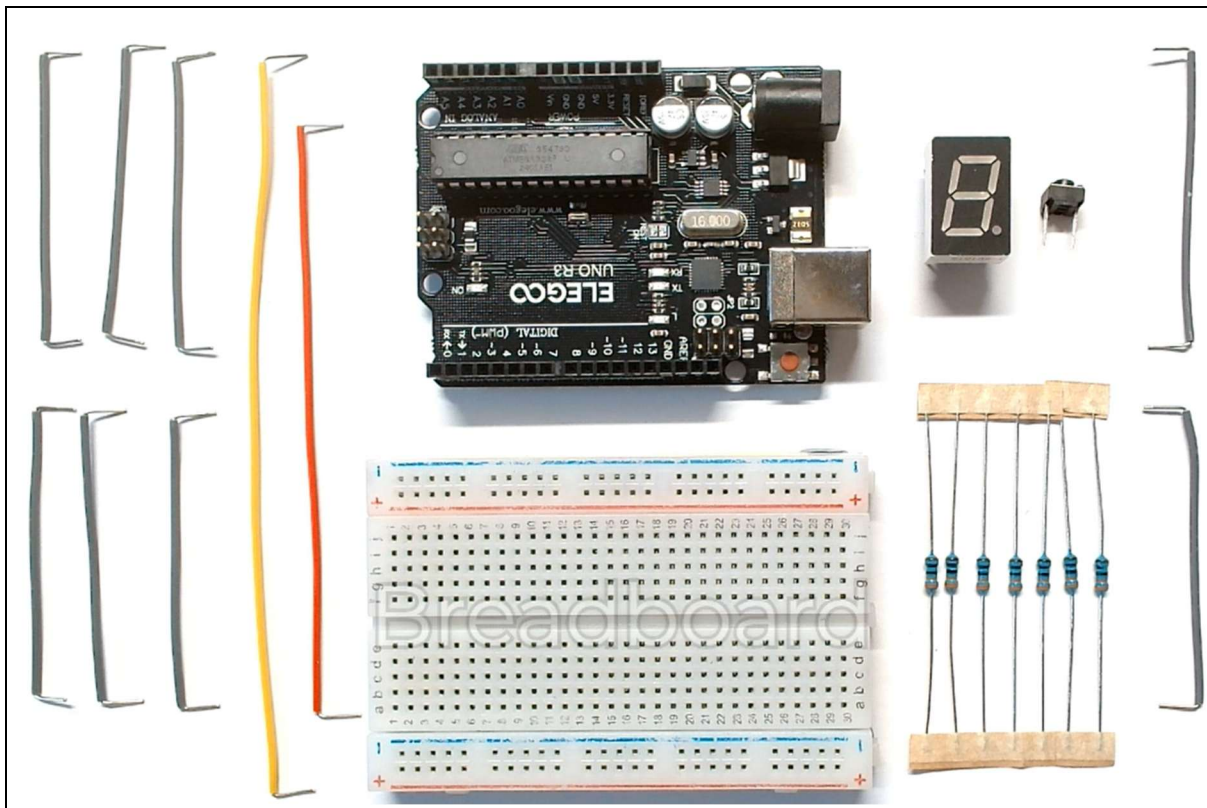
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Components for your Project

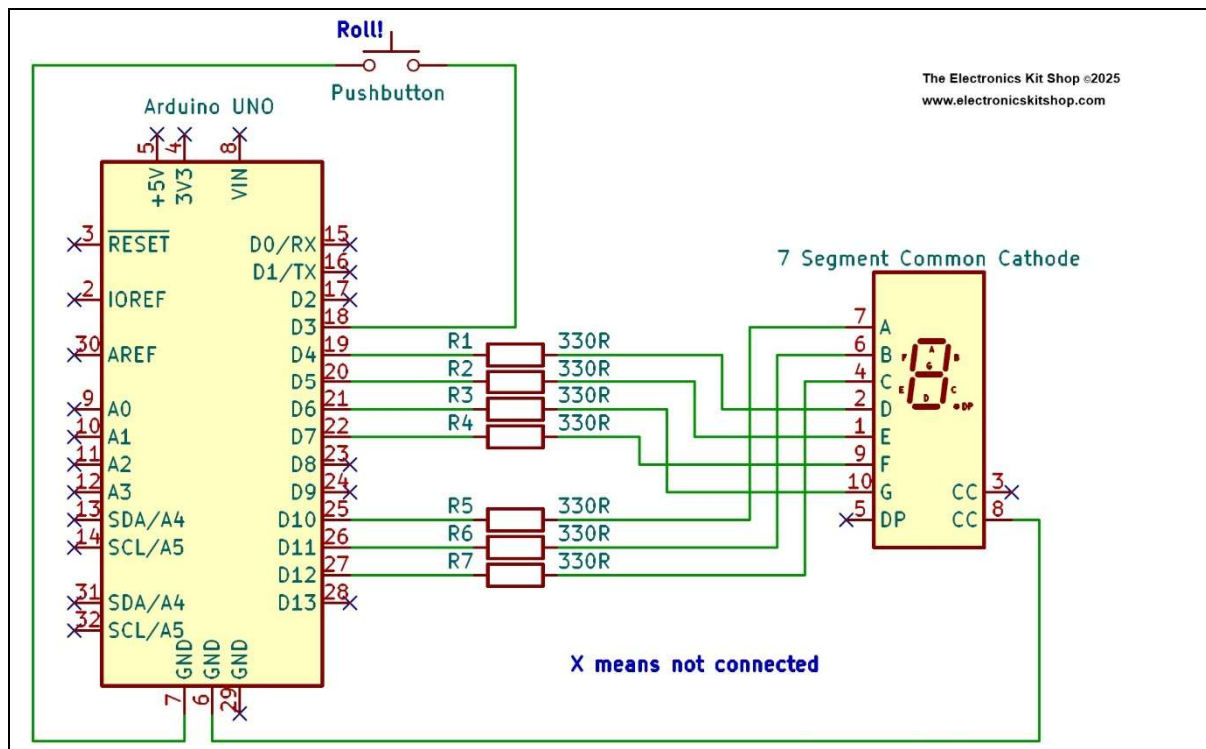


For your project you will need:

- An Arduino Uno or Mega. You can also use an Arduino Nano or any other Arduino type, but you might need to change the pin assignments for these in the software (this is easy to do)
- A breadboard
- A 7-Segment COMMON CATHODE display
- A pushbutton. You can use a standard 4 pin pushbutton, though the 2 pin buttons like in the picture are much easier to fit into breadboards
- Seven 330 Ohm resistors. You can use any resistor values ranging from 330 Ohms to 560 Ohms.
- Assorted breadboard jumper wires

Note: if you have a 7-Segment display with a different pinout, you can change the pin numbering to suit it.

Schematic Diagram



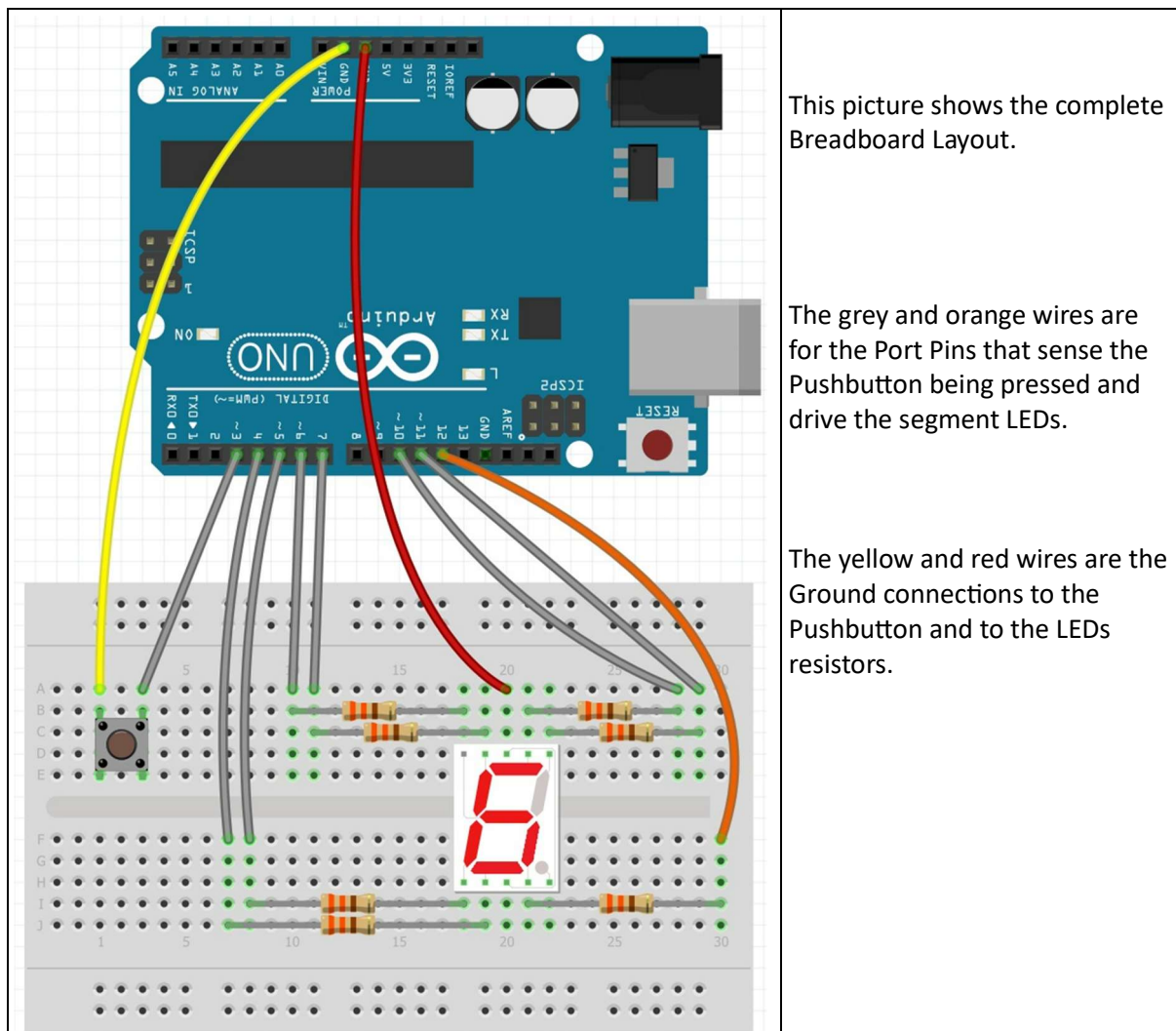
Arduino Port Pin **D3** is configured as an *input* and the Roll! pushbutton is detected by this pin.

Port Pins **D4** thru **D7** and Pins **D10** thru **D12** are configured as *outputs*, and drive the seven segments of the display to make the dice score.

Each of the seven segments has a resistor in series with it which limits the current through the segment LEDs (without this the LEDs would be damaged).

The **GND** from the Arduino is connected to the Pushbutton and to all of the segment LEDs via their resistors.

Breadboard Layout



Project Software

The project software is in file: **ArduinoDigitalDice.ino**

The project software and documentation can be downloaded from:

<https://www.electronicsskitshop.com/projects>

The software can be compiled in the Arduino IDE and uploaded to your Arduino.

The software contains comments to tell you what it is doing.

You can change the software if you want to reassign the Arduino Port Pins, or you want to experiment with making the project do different things.

Document Version 1.0



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