Part 3

lesson 5

Four Digit Seven Segment Display

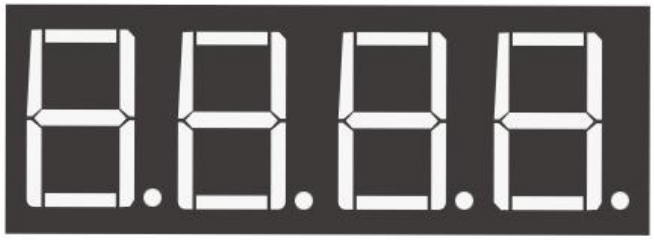
Overview

In this lesson, you will learn how to use a 4-digit 7-segment display.

When using 1-digit 7-segment display, please notice that if it is common anode, the common anode pin connects to the power source; if it is common cathode, the common cathode pin connects to the GND.

When using 4-digit 7-segment display, the common anode or common cathode pin is used to control which digit is displayed. Even though there is only one digit working, the principle of Persistence of Vision enables you to see all numbers displayed because each the scanning speed is so fast that you can hardly notice the intervals.

Component Required:



(1) x Elegoo ESP32

(2) x 400 tie-points breadboard

(1)x 74HC595 IC

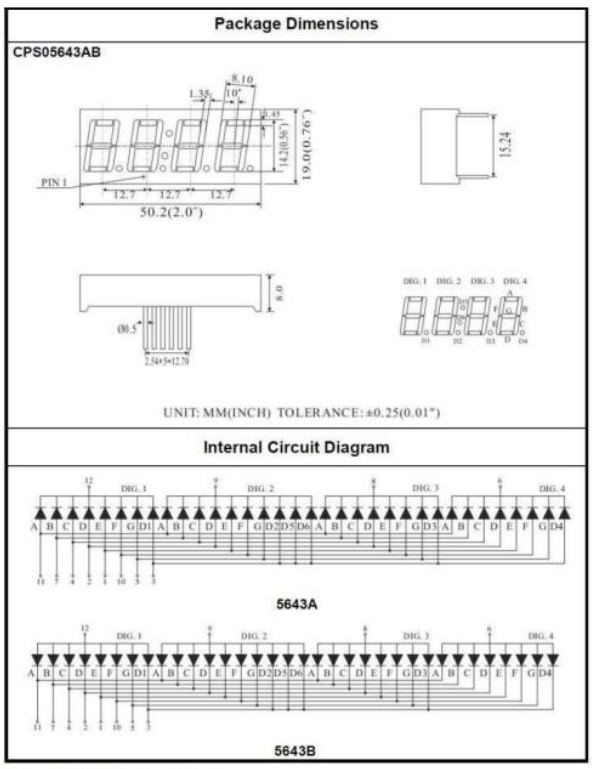
(1) x 4 Digit 7-Segment Display

(4) x 220 ohm resistors

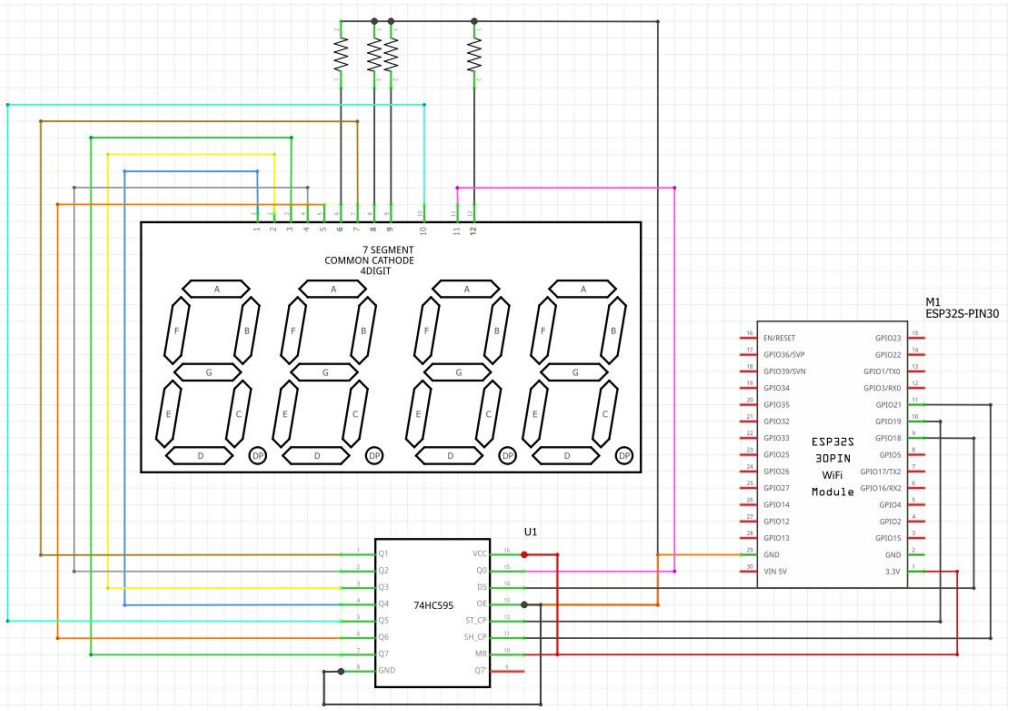
(23) x M-M wires (Male to Male jumper wires)

Component Introduction

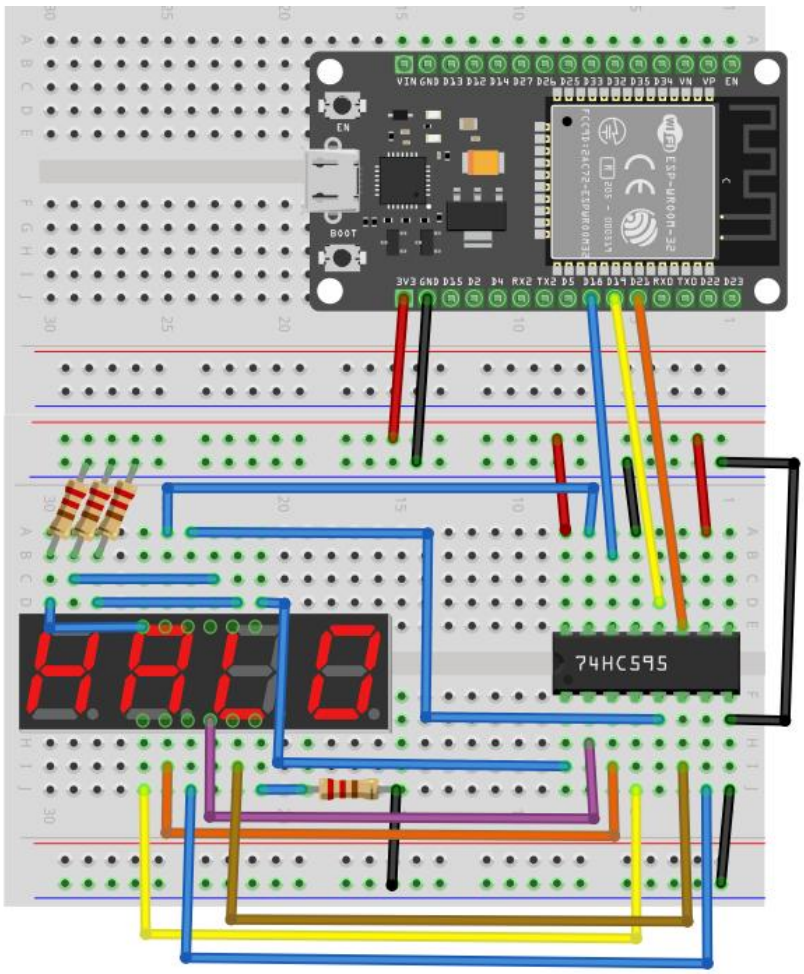
Four Digital Seven Segment Display



Four Digits Displays Series



Connection Schematic



Wiring diagram

Code

After wiring, please open the program in the code folder- **Four_Digital** and click UPLOAD to upload the program. See Lesson 5 of part 1 for details about program uploading if there are any errors.

In the example code, all four digits of the common-cathode 7-segment display are lit simultaneously. Since DIG1–DIG4 are active-low digit-select pins and the schematic ties them all to GND, every digit remains permanently enabled. To illuminate a single digit, connect its DIG pin to an ESP32 GPIO and drive it LOW while setting the other three digit-select lines HIGH.