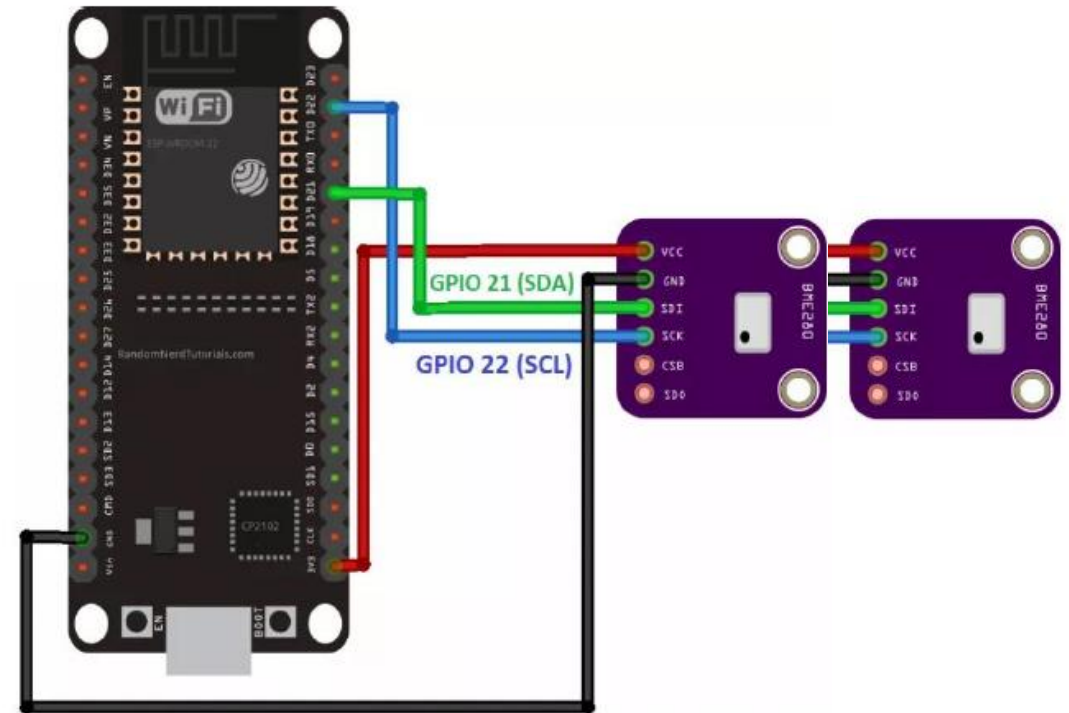# Task 2.4: I2C Master Slave communication

Connect two BME280, or one BME280 and one BMP280 to the same I2C bus.

Problem is, both slaves have the same I2C address.

See the Adafruit homepage how to change the address easily. Use the alternative I2C address!
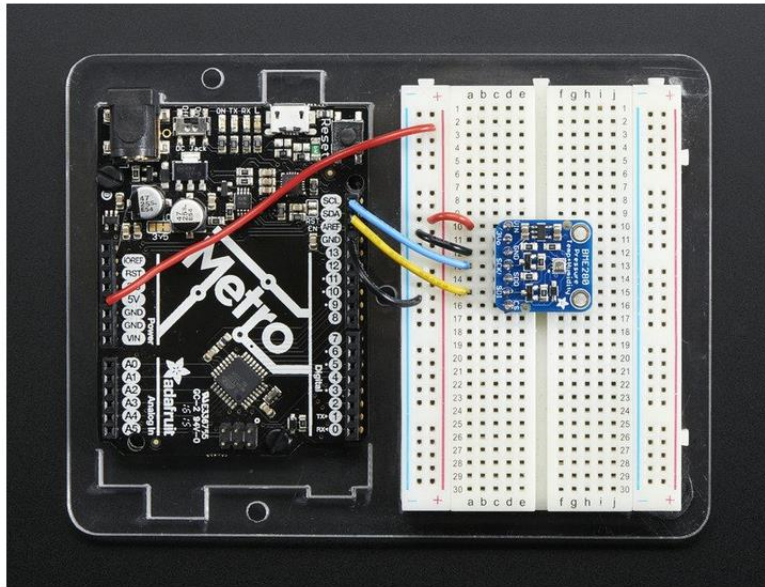
https://learn.adafruit.com/i2c-addresses/the-list

This schematic uses the ESP32 DEVKIT DOIT board version with 36 GPIOs. Before assembling the circuit double-check the pinout for the board you're using.

Solutions

Solution A

I2C Wiring

Use this wiring if you want to connect via I2C interface

- Connect **Vin** to the power supply, 3-5V is fine. Use the same voltage that the microcontroller logic is based off of. For most Arduinos, that is 5V
- Connect **GND** to common power/data ground
- Connect the **SCK** pin to the I2C clock **SCL** pin on your Arduino. On an UNO & '328 based Arduino, this is also known as **A5**, on a Mega it is also known as **digital 21** and on a Leonardo/Micro, **digital 3**
- Connect the **SDI** pin to the I2C data **SDA** pin on your Arduino. On an UNO & '328 based Arduino, this is also known as **A4**, on a Mega it is also known as **digital 20** and on a Leonardo/Micro, **digital 2**

By default, the i2c address is 0x77. If you add a jumper from SDO to GND, the address will change to 0x76.

Solution B

Pin16 and 17 can used as i2c interface as well
Pin17 = SDA, Pin18 = SCL

https://learn.adafruit.com/adafruit-bme280-humidity-barometric-pressure-temperature-sensor-breakout/arduino-test