Microprocessors & Microcontrollers
: Arm Cortex M0+
(Using RP2040)

ESM_22

Demo Program using I2C

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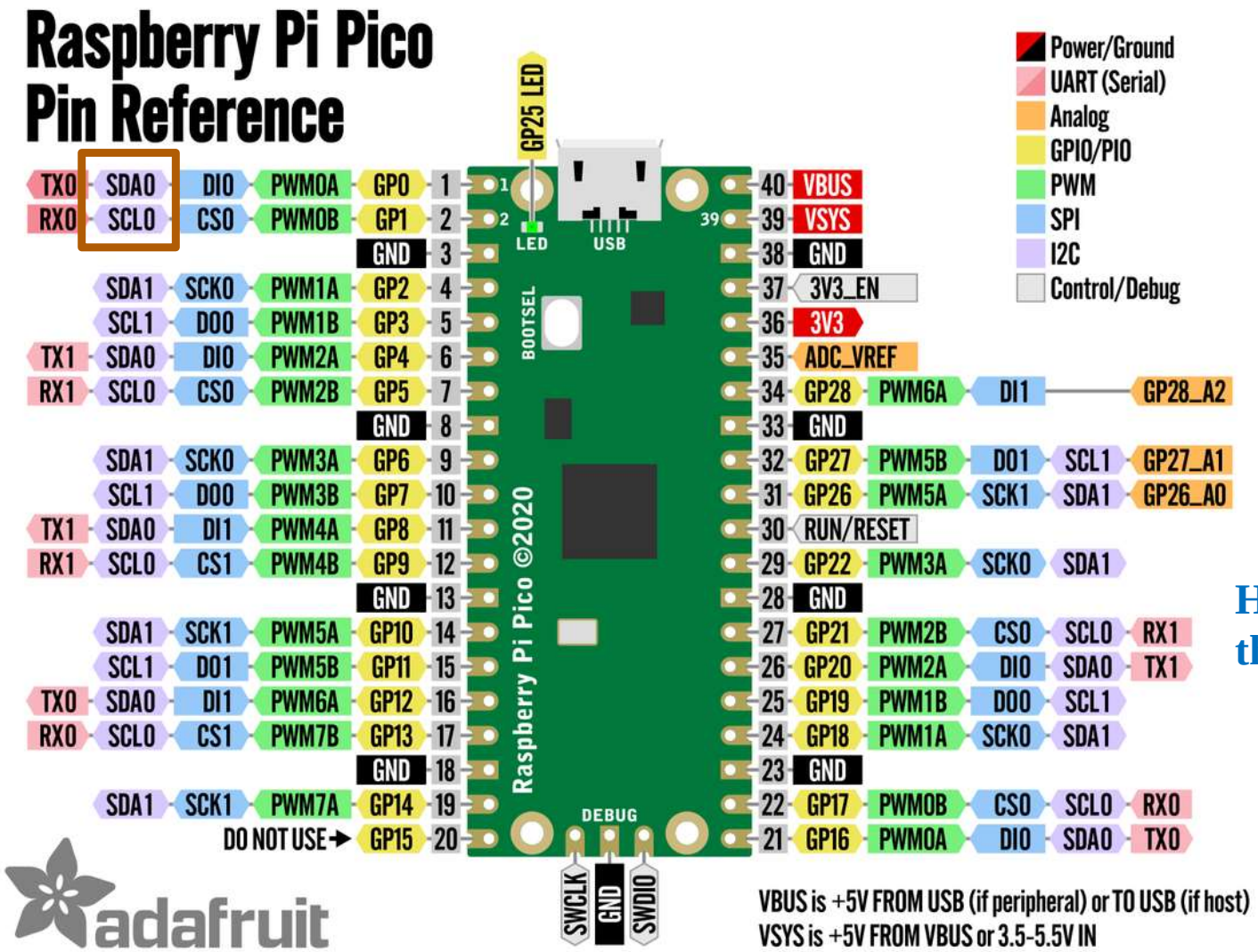
Lecture 3.4.2 Focus

- I2C Demo
- Circuit Diagram

I^2C Circuit Diagram

RP2040 Pin Out:



There are two I2C devices here

I2C0 and I2C1

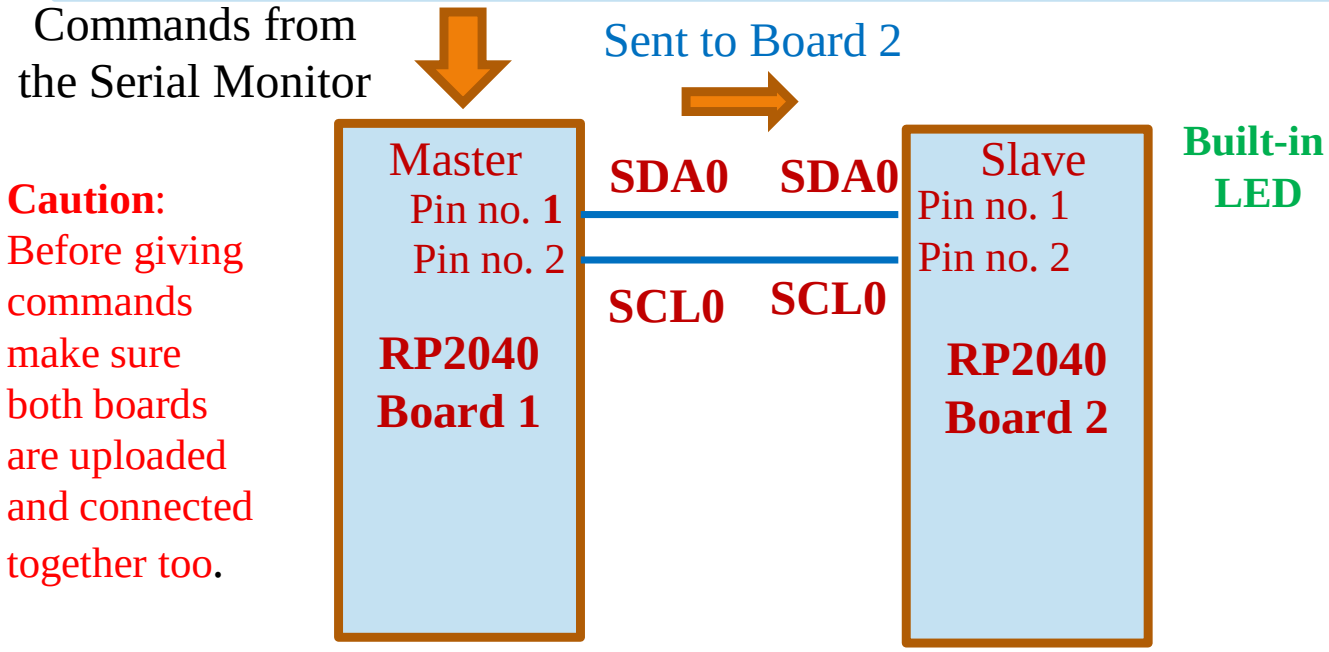
There are many pins that can be mapped to I2C devices to enable flexible interfacing of other ICs in the board.

Here, we are using the GP0 and GP1

I2C Circuit Diagram

Two Programs (Run on the Boards 1 and 2)

I2C0 – Receives data through ISR



Caution: Before giving commands make sure both boards are uploaded and connected together too.

The **Commands** are:
O or o: ON
F or f: OFF
1 to 9: Blink at the rate **100** to **900** milliseconds

File name:
prog_lec_3_4_2_i2c0_master.ino

File name:
prog_lec_3_4_2_i2c0_slave.ino

- Interconnect the boards by connecting the I2C 0 SDA and SCL pins as shown above
- Upload the programs on to the boards from the laptop
- From the Serial monitor of Board 1 (Tx) give the above commands to control the built-in LED on the Board 2 (Rx)

Summary

- I2C Demo
- Circuit Diagram