MICROCONTROLLER ADC CALCULATOR

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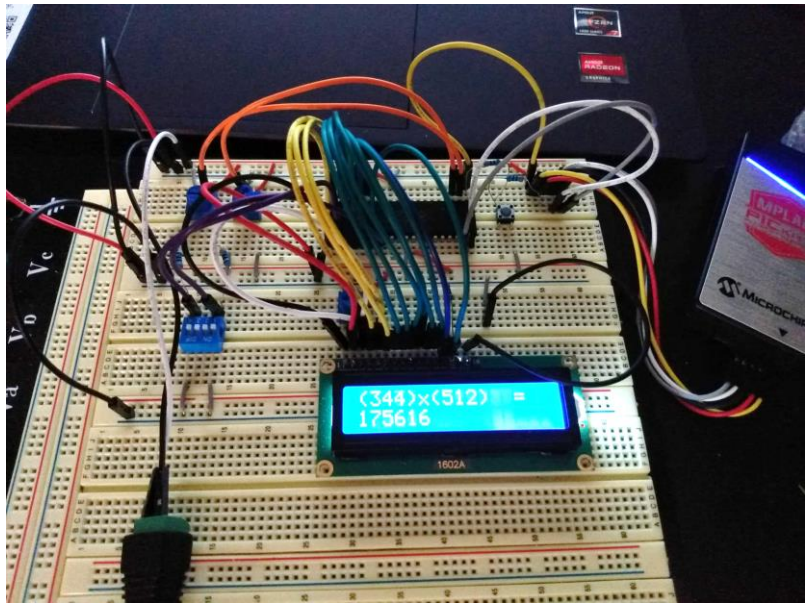
Description

Use Analog to Digital Converter (ADC) and General Purpose Input/Output (GPIOs) microcontroller features and adequate hardware equipment to create a simple calculator.



Note: revise code and PIC18F manual guide for configuration bit details and more.

Materials

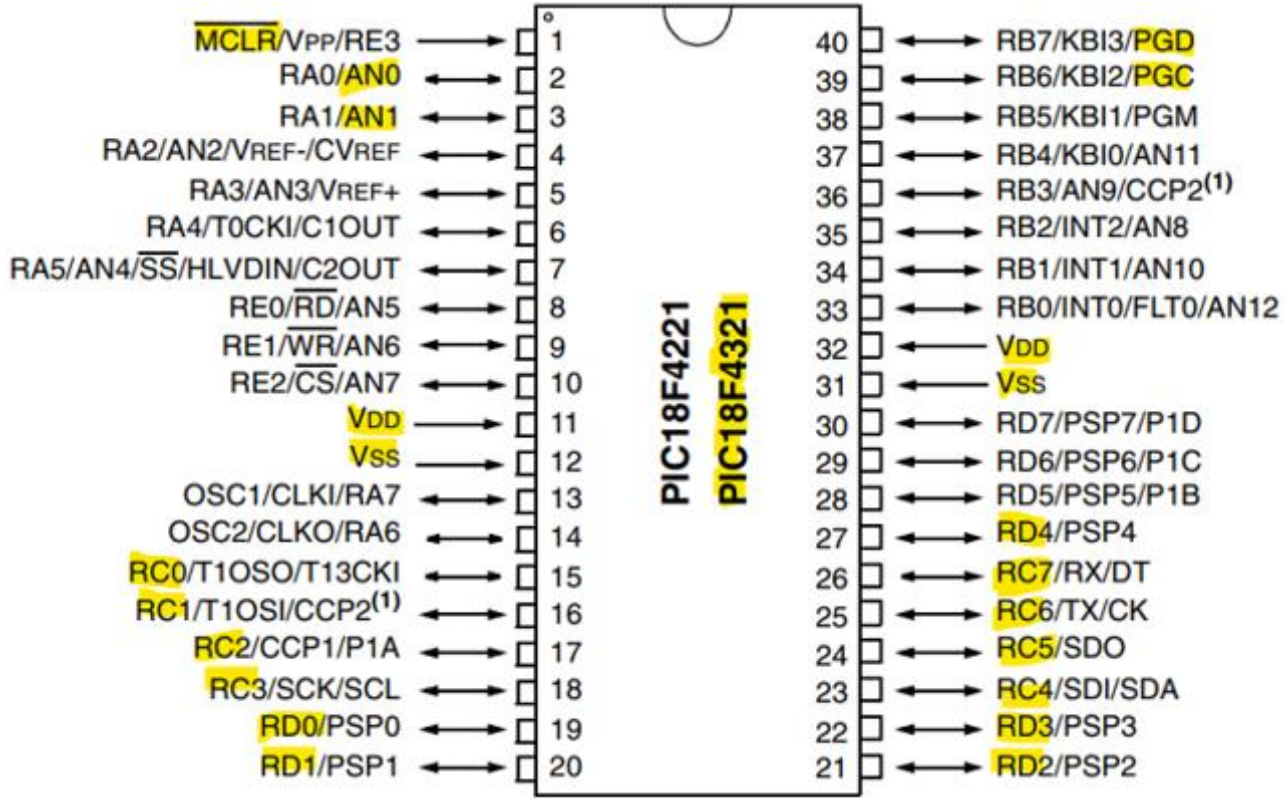
HARDWARE

- PIC18F4321
- PICKIT 4
- Circuit materials
  potentiometers, 16x2 LCD, wires, resistors, power supply (3.3V)

SOFTWARE

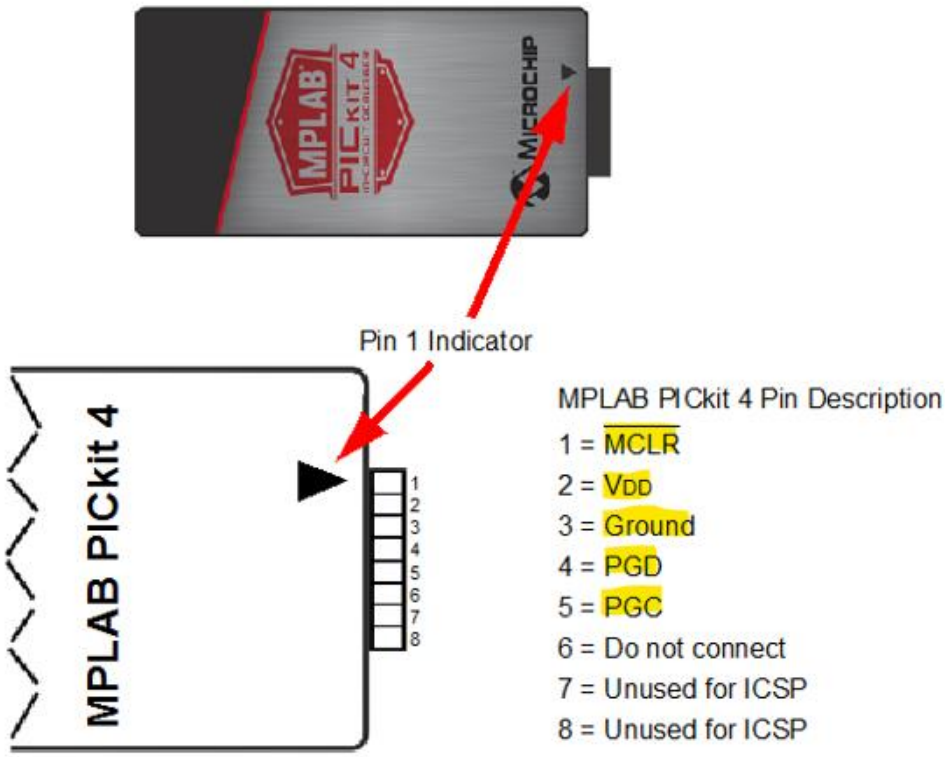
- MPLAB IDE (v5.40)
- XC8 Compiler (v2.20)

PIC18F4321 Pinout



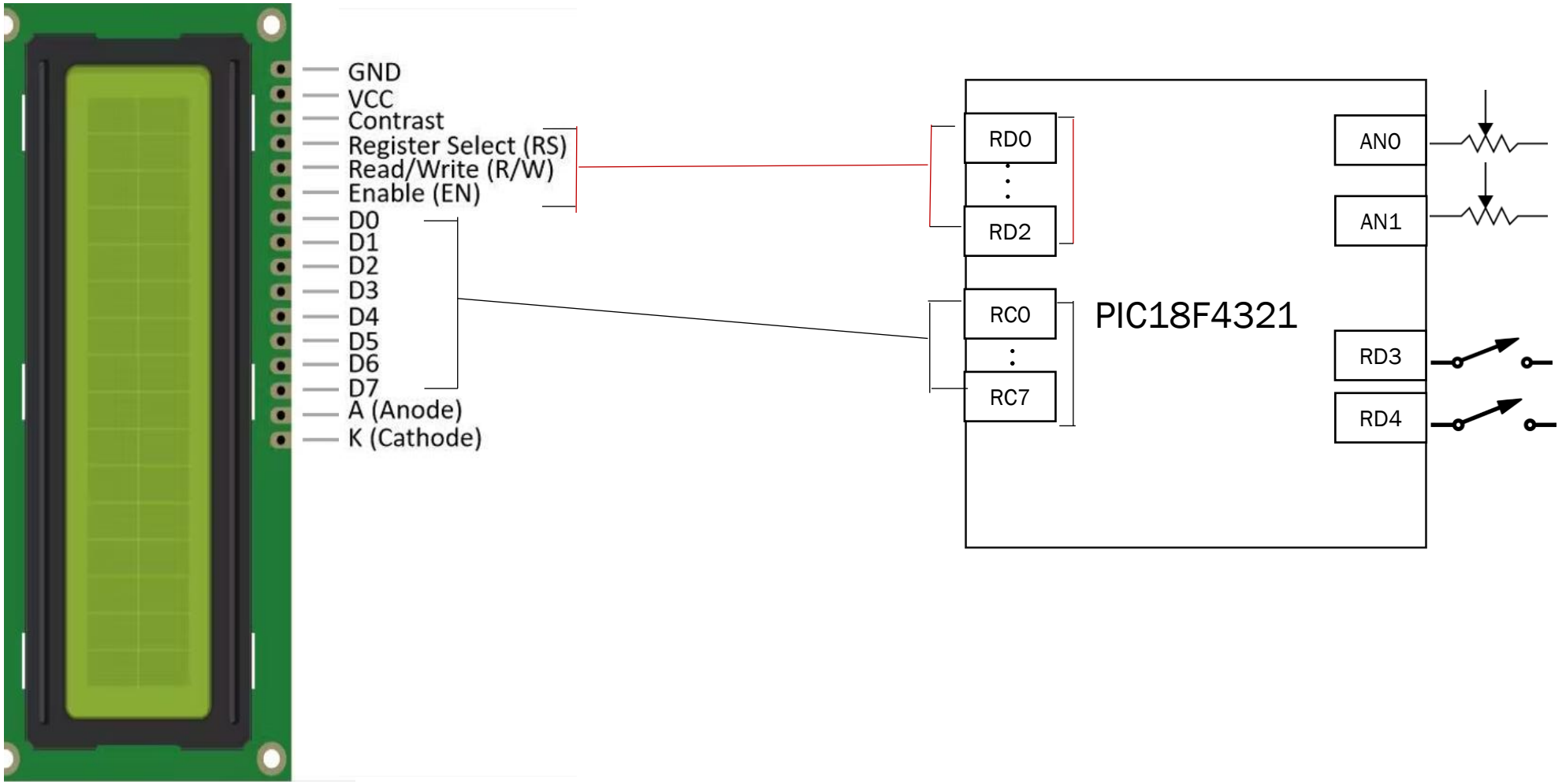
Highlighted ports are used ports

PICKIT 4 Pinout



Highlighted ports are used ports

Schematic


GND
VCC
Contrast
Register Select (RS)
Read/Write (R/W)
Enable (EN)
D0
D1
D2
D3
D4
D5
D6
D7
A (Anode)
K (Cathode)
RD0
RD2
RC0
RC7
PIC18F4321
AN0
AN1
RD3
RD4

References

Microchip Data Sheet and PICKIT Pinout
https://microchipdeveloper.com/pickit4:debugger-connector-pinout
http://ww1.microchip.com/downloads/en/DeviceDoc/39689b.pdf

LCD Display Pinout
https://create.arduino.cc/projecthub/ejshea/interface-a-16x2-character-lcd-1c7c7e

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