ADC:
(https://bitbucket.org/dineshravilla/sht15_pic18f4520/src/7b7d85575607bb0c7ec6262ea130bfaa8a9106f3/lib/adc/?at=master)

PORTA is by default analog input channels. PORTE<0:2> has 3 analog input channels and RB<0:3> has 4 analog input channels. Summing to 13 ADC channels.

ADCs can be controlled by the registers, "ADCON0" and "ADCON1".

Result is stored in ADRESH and ADRESL.

Conversion will be started after enabling the "**ADON**" bit in ADCON0

"GO" bit is monitored until the conversion is completed.

LCD:
(https://bitbucket.org/dineshravilla/sht15_pic18f4520/src/7b7d85575607bb0c7ec6262ea130bfaa8a9106f3/lib/lcd/?at=master)

Steps to send a command to LCD:

- RS = 0;
- RW = 0;
- High to low pulse to E,
  i.e., E = 1; Delay(); E = 0;

Steps to send data to LCD:

- RS = 1;
- RW = 0;
- High to low pulse to E

Useful LCD Commands:

0x38 – Initialize all the matrices in LCD

0x0c – Cursor on

0x01 – clear lcd

0x80 – Cursor at First position in first line

0xc0 – cursor at first position in second line

0x8f – cursor at last position in first line

0xcf – cursor at last position in second line

LCD display ASCII characters only. To display numbers, 0x30 should be added to the number.

KEYPAD:
(https://bitbucket.org/dineshravilla/sht15_pic18f4520/src/7b7d85575607bb0c7ec6262ea130bfaa8a9106f3/lib/Keypad/?at=master)

Each row and column are connected to the pins of the microcontroller.

- One row is activated at a time, while others being in inactive state.
  rowA = 1, rowB = 0, rowC = 0, rowD = 0;
- Check for each column in the activated row, in this case rowA.
  If(col1 == 1) .....
  If(col2 == 1) .....
  If(col3 == 1) .....
  If(col4 == 1) .....
- Above two steps are repeated for the other rows and columns
  rowA = 0, rowB = 1, rowC = 0, rowD = 0;

Millis():
(https://bitbucket.org/dineshravilla/sht15_pic18f4520/src/7b7d85575607bb0c7ec6262ea130bfaa8a9106f3/lib/millis/?at=master)

Timer0 interrupt is enabled using GIE, PEIE and TMR0IE bits.

Timer0 is on using T0CON register.

T0CON – 0xc3 in the code

- TMR0ON - enabled
- T08bit – TMR0 is configured as 8 bit
- Prescaler is assigned, 1:16

Interrupt ISR routine:

When the interrupt flag is set, **t_millis** is incremented and the flag is reset every time.