Suppose we have to configure ADC, what are the steps (Reference datasheet):

PIC16F887

- Port configuration
    1. Configuring PORT and TRIS register
    2. Configuring ANSEL register (ADC registers)
- Channel selection
    1. Clear the GO/DONE bit
    2. Set the ADIF flag bit
    3. Update the ADRESH:ADRESL registers with new conversion result
- ADC voltage reference selection
    1. Selecting the reference voltage
- ADC conversion clock source
    1. Setting the clock source for the conversion
- Interrupt control
    1. Configuring the interrupt
- result format

ADC registers:

- A/D Control Register 0 (ADCON0)
- A/D Control Register 1 (ADCON1)
- A/D Result High Register (ADRESH)
- A/D Result Low Register (ADRESL)

ADCON0: 8 bit

- 0: ADC enable bit
- 1: Conversion status bit - (GO/DONE) bit
- 2-5: Selecting the analog channels (there are 14 channels in pic16f887)
- 6 and 7: Selecting clock source (Fosc/2, or Fosc/8, or Fosc/32)

ADCON1: 8 bit

- 0-3: Unimplemented - 0
- 4: Reference voltage bit
- 5: Reference voltage bit
- 6: Unimplemented - 0
- 7: Conversion result format (either left (ADRESH) or right (ADRESL) justified)

After selecting the result format take the result from ADRESH and ADRESL