Timer

PIC16F887

Timer 0

- 8Bit counter/timer register
- Overflow from FFh -> 00h triggers interrupt
- Interrupt starts ISR
- ISR = Interrupt Service Routine

Timer 0

Modes

- Timer mode
  - Increments on each instruction cycle
- Counter mode
  - Counts rising/falling edge on T0CKI

Timer 0

Timer 1

- 16Bit counter/timer register
- works as timer with internal clock source
  - Prescaler of 1, 2, 4 or 8
  - Timer increments if clock sources is a multiple of the prescaler
- works as timer with external clock oscillator
- works as counter with external clock
- Can create an interrupt even if the processer is in sleep mode
  - Will wake-up the processor

Timer 0

Timer 1

Timer 2

- 8Bit timer register, 8Bit period register
- period register gets user input
- Works only as timer
- Prescaler of 1, 4 or 16
- Postscaler 1:1 to 1:16
- Both registers are compared, on match:
  - Timer register is resetted
  - Match output goes into postscaler
  - Goes through postscaler