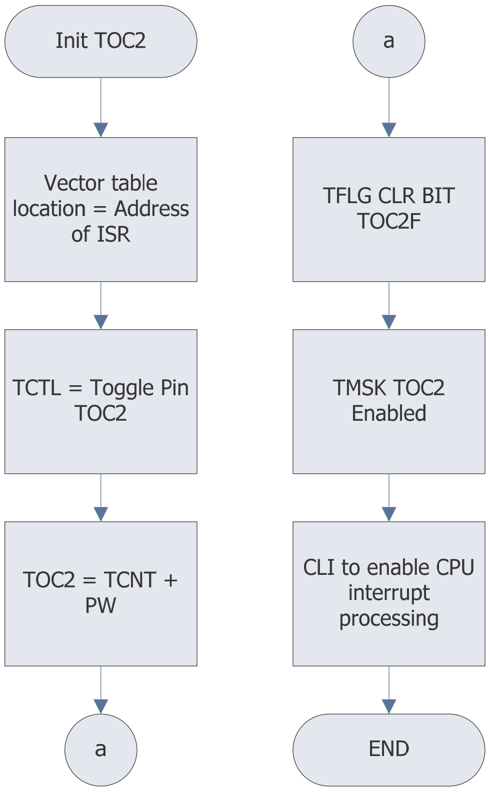
Initializing the TOC Behavior

Remember the standard steps:
1. Control registers
2. Parameters
3. Initial flag clear because time has started
4. Mask clear to enable the interrupts

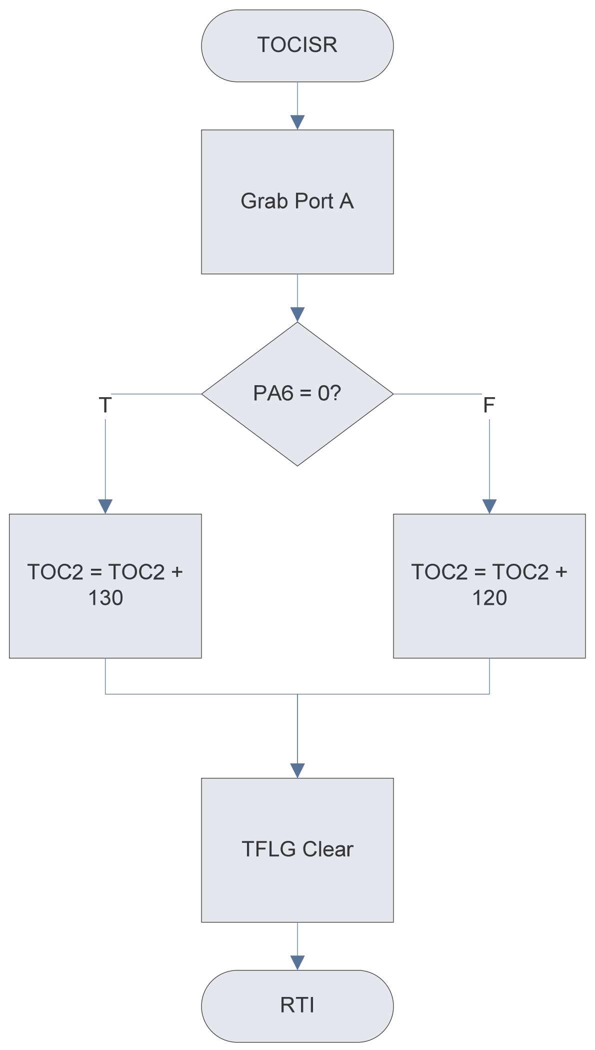
The Sequence



The timer has the ability to write voltages onto the pins for us.

The CPU has the ability to ignore interrupts, much like Dr. Meier could sit in his office, shut the door, and put his headphones on.

The control bits that allow the interrupt to be generated by the timer are in the mask registers. You cannot clear TFLG using BSET or BCLR. **You must do a LOAD-STORE pattern.** The reason there is a restriction on how you interact with the flag registers is to prevent programmers from clearing out and acknowledging all interrupts handled by the flag register. It is deliberately designed with a structure that makes you think about how you have to acknowledge the interrupt.



The Code

```
                LDS     #$DFFF
INIT:           LDX     #TOC2ISR        ; init speical test TOC2 vector
                STX     0xBFE6

                ; Configure to toggle the signal
                LDAA    TCTL2
                ORAA    #%01000000
                ANDA    #%01111111
                STAA    TCTL2

                ; An alternate method of the above:
                ; -snip
                LDX     #TCTL2
                BCLR    0,x %10000000
                BSET    0,x %01000000
                ; -snip-

                ; Drive TOC2 to 5V
                LDAA    PORTA
                ORAA    #%01000000
                STAA    PORTA
                ; Set the time of the interrupt
                LDD     TCNT
                ADDD    #120
                STD     TOC2

                ; Clear the interrupt flag
                LDAA    #%01000000      ; Write 1 to clear protection strategy
                STAA    TFLG1

                ; Enable the interrupt
                LDAA    TMSK1
                ORAA    #%01000000
                STAA    TMSK1

                ; Enable Interrupts
                CLI

TOC2ISR:        ...
                ...

                LDAA    PORTA
                ANDA    #%01000000
                BEQ     PINWENTLOW

                ...
                ...
                RTI
```