

4. ISR question: For system of problem three (Interrupt Controller, 4 bits ...) create an Interrupt Service Routine for the following situation. Timer Module is hooked to the most significant bit of the four identified in the question. When the timer service is requested, reset the appropriate flags, increment the value in R11 and send the value to the LEDs. The Interrupt controller address is identified in Problem 3. The Timer Module is located at **0x84460000**, and the LED interface GPIO is located at **0x84480000**. Do not worry about register volatility.

• `set IRR, 0x04` - ?

• `set IAR, 0x0C` -

• `org 0x500` -

`li r2, 0x8446` ← Timer Module

`li r3, 0x8444` ← INTC

`li r4, 0x8448` ← GPIO

`lwr r2, IRR(r3)`

`andi r5, r2, 0x8`

`beq end` — ? look again

`li r6, 106`

`stw r6, 0(r2)`

`li r7, 0x8`

`stw r7, IAR(r3)`

`addi r11, r11, 1`

`stw r11, 0(r4)`

`end: rfi`