

MAINLINE

1. Initialize Timer7 clock
2. Initialize I2C2 clock
3. Initialize GPIO1 clock
4. Set up GPIO1_31 for output
5. Initialize GPIO1_31 for logic low
6. Initialize INTC for Timer7 and I2C2
7. Map I2C2
8. Configure I2C2 module
9. Initialize I2C2
10. Configure slave address and DATA counter
11. Initialize Timer7 count, overflow, etc
12. Enable IRQ interrupt
13. Enable Timer7 interrupt signals
14. Wait loop

INT_DIRECTOR

1. Save registers
2. Check if interrupt from Timer7
 - a. IF Timer7, go to TIMER7_SVC
 - b. ELSE, cleanup, enable, and return to infinite loop
3. Check if interrupt from I2C2
 - a. IF XRDY, go to I2C2_SVC
 - b. ELSE IF NACK, go to ERROR
 - c. ELSE, cleanup, enable, and return to infinite loop

TIMER7_SVC

1. Disable Timer7 interrupt signals
2. Initiate I2C2 transfer
3. Enable I2C2 interrupt signals
4. Go to RETURN_SVC

I2C2_SVC

1. Write data
2. Clear interrupt
3. Disable I2C2 XRDY interrupt signal
4. Enable Timer7 interrupt signals
5. Go to RETURN_SVC

RETURN_SVC

1. Enable IRQ interrupt
2. Restore registers and return to wait loop

ERROR

1. Set GPIO1_31
2. Enter endless loop