What does the AUTOEND bit in the CR2 register do? Why don't you want to use it when you'll be needing a restart condition?
The autoend bit controls if Automatic End Mode is enabled or not. If it is a STOP condition is automatically sent when NBYTES of data are transferred. You don't want to use this if you are doing a RESTART because this will auto send a STOP signal when NBYTES are transferred even if you want a RESTART condition.

This lab used standard-mode 100 kHz I2C speed. What values would you write in the TIMINGR if we were using 400 kHz fast-mode?
PRESC[3:0]: 0
SCLL[7:0]: 0x9
SCLH[7:0]: 0x3
SDADEL[3:0]: 0x1
SCLDEL[3:0]: 0x3

This lab used blocking code. To implement it completely as non-blocking you would replace all of the wait loops with interrupts. Most flags in the I2C peripheral can trigger an interrupt if the proper enable bit is set. Find the interrupt enable bits that match the following flags: The Inter-Integrated Circuit (I2C) Interface 17
 • **TC:** CR1: Bit 6
 • **NACKF:** CR1: Bit 4
• **TXIS (transmit interrupt):** CR1: Bit 1
• **ARLO:** CR1: Bit 7
For ARLO you enable the ERRIE interrupt because ARLO triggers the ERRIE interrupt.

The gyro can operate in three full-scale/measurement ranges, measured in degrees-per-second (dps). What are these three ranges?
245/500/2000 DPS

What is the I2C address of the gyro when the SDO pin is low? The lab has the pin set high, read the I2C section of the gyro datasheet.
When the SDO pin is low the address is: 0b1101000 OR 0x68
When the SDO pin is high the address is: 0b1101001 OR 0x69