Postlab questions Lab5

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1. 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?

Autoend is the automatic end mode. This register will end everything at the moment when set, It details the end of a line of communication. There is no need to stop the PE, but has limits. This does not effect a slave device, nor des

2. 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?

0 in the PSC, 0x9 in the SCLL, 0x3 in SCLH, 0x1 in the SDADEL, and 0x3 in the SCLDEL

3. 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:

- TC
  - NACKF
  - TXIS (transmit interrupt)
- - ARLO

For TC it will be set to 1 in bit 6 in the CR1 to enable for the flag to be triggered.
For NACKF it will be set to 1 in bit 4 in CR1 to enable the flag to be triggered.
For TXIS it will be set to 1 in bit 1 to enable the flag to be triggered.
For ARLO will be set to 1 in bit 7 to enable ARLO flags to be triggered.

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

Pitch, yaw, and roll.

5. 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 pin is set to 0 it allows more than one Gyro to be set on those pins.