# ECE 340 Homework

1. Item (2) under the “Project Specifications” of the I2C lab description provides the interface for the block write routine. Provide a “pseudocode” description of an algorithm (or C code if you prefer) that calculates the following: (1) the number of bytes that will be written into the first page; (2) the number of full pages that will be written afterwards (possibly zero); and (3) the number of bytes remaining that will be written to a final, partial, page (also possibly zero).
2. Why does a read from the EEPROM end with a “Not Ack”, or NACK, while a write ends with an ACK?
3. Why does the EEPROM not support writing to the memory without first sending an address, like it does for reads? Explain why you might perform a read without first sending an address. (Figure 8-1 from the EEPROM datasheet)
4. The logical value 1 (HI) under the I2C protocol is considered “recessive”, while the logic 0 (LO) value is “dominant”. What does this mean and how is it implemented electrically, i.e., the Physical layer of the protocol?
5. How is the logic 1 value generated on I2C bus #1 of our Cerebot board?
6. Dr. J writes 6 bytes to his memory, starting with address 0x55BC.
   1. Which page(s) does he access (in decimal)?
   2. How many bytes are written to each?