

ECE 3724 Quiz #9 Reese NAME: \_\_\_\_\_  
 Answer each of the following questions (you can use a calculator)

- a. (5 pts) Write a sequence of functions calls using `i2c_start()`, `i2c_get(char ackbit)`, `i2c_put(char byte)`, `i2c_stop()`, `i2c_rstart()` that will implement a random WRITE to location 0x8003 within the 24LC515 serial EEPROM. Assume pin A1 is tied high, and pin A0 is tied high. Assume that the value to be written is in `char` variable `'data'`.

```

i2c_start();           //          blksel  A1  A0  Write command
i2c_put(0xAE);        // i2c address byte: 1 0 1 0 1 1 1 0
i2c_put(0x80);        // high address byte
i2c_put(0x03);        // high low address
i2c_put(data);        //write the data
i2c_stop();           // halt transaction
  
```

- b. (3 pts) Using the assumptions of problem #a, write a loop that will poll the 24LC515 serial EEPROM for end-of-write, and exit the loop when the device is read (last write is finished). You will need to use the function `i2c_get_noerr(char ackbit)` to accomplish this.

```

char ack;
do {
  i2c_start();
  ack = i2c_put_noerr(0xAE); //send write command
  i2c_stop();
}
while (ack); //loop while returned ack bit is a '1'
  
```

- c. (2 pts) Assume a generic I2C device supports a 2-byte READ transaction. Draw a diagram that shows the placement of the bytes in transaction, and any known bit values in the transaction. Also indicate if the ACK bits come from PIC or from the I2C device.

