EE 308 – Homework 5

Due Feb. 23, 2005

1. For the homework problems which follow assume you have included the file `iodp256.h` in your C program. Thus, you can refer to `PORTB` when you want to access a byte at address `0x0001`. Where I ask for "some code" just write that part of a C program which will do the task. Where I ask for "a program" write a complete program, include the `#include "iodp256.h"` line, the declaration of variables, the `main()` function, etc.

2. Write some C code which will make bits 5, 3, 1 and 0 of `PORTB` output and the other bits of `PORTB` input.

3. Write some C code which will set bits 7 and 3 of the eight-bit register at address `0x0075` while leaving the other bits unchanged.

4. Write some C code which will clear bits 6 and 4 of the eight-bit register at address `0x0076` while leaving the other bits unchanged.

5. Write a C program which makes `PORTA` an input, `PORTB` an output. Then write an infinite loop which reads `PORTA`, and writes an `0xAA` to `PORTB` if Bit 4 of `PORTA` is high, and write an `0x33` to `PORTB` if Bit 4 of `PORTA` is low.

6. Write a C program which counts the number of negative 16-bit numbers in a table. The table (of 16-bit signed numbers) starts at address `0x8000` and ends at address `0xFFFF`. Print the count to the screen, using the `printf()` function of DBug-12.