EE 308 – Homework 1

Due Jan. 24, 2005

1. Explain what the command `BF 2000 20FF AA` of the `D-Bug 12` Monitor does.

2. Consider the following HC12 program:

```
; 68HC12 demo program
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; 1/20/2005

; This is a program to add two numbers together
; and store the results in memory

         title   "LAB 1 Demo Program"

evbram:  equ     $1000        ;0x1000 is start of user ram on 68HC9S12
prog:    equ     evbram       ;start program at beginning of RAM
data:    equ     evbram+$1000 ;

CODE:    section .text    ;The stuff which follows is program code
         org     prog     ;set program counter to 0x0800
         ldaa    input1   ;Get input data into ACCA
         adda    input2   ;add input2 to ACCA
         staa    result1  ;Save the result
         ldaa    input1   ;Get input data into ACCA
         suba    input2   ;Subtract input2
         staa    result2  ;Save the result
         swi              ;End program (return to monitor in HC12)

DATA:    section .data    ;The stuff which follows is data
         org     data
input1:  dc.b    $29      ;first input value
input2:  dc.b    $1b      ;second input value
result1: ds.b    1        ;reserve one byte for results
result2: ds.b    1        ;reserve one byte for results
```

   What is the value of Register `A` after each instruction of the program has executed? (E.g., after the instruction `ldaa input1`, Register `A` will have a `0x29` in it.)

3. What are the addresses of RAM in the HC12 which are available to you for your programs and data?

4. What are the addresses of EEPROM in the HC12 which available for your use?

5. What are the addresses in the HC12 which are pre-programmed with the `D-Bug 12` Monitor program?