EE 308 – Homework 1

Due Jan. 21, 2002

1. Explain what the command `MD 800` of the `D-Bug 12` Monitor does.

2. Consider the following HC12 program:

```
; 68HC12 demo program
; Bill Rison
; 1/22/99

; This is a program to divide and multiply a number by two,
; and store the results in memory

          title    "LAB 2 Demo Program"

evbram:   equ      $0800        ;0x0800 is start of user ram on 68HC12
prog:     equ      evbram       ;start program at beginning of RAM
data:     equ      evbram+$0100 ;

CODE:     section .text    ;The stuff which follows is program code
          org     prog     ;set program counter to 0x0800
          ldaa    input    ;Get input data into ACC A
          asra             ;Divide by 2
          staa    result   ;Save the result
          ldaa    input    ;Get input data into ACCA
          tab              ;Put the same number into ACCB
          aba              ;Add the number to itself (multiply by two)
          staa    result+1 ;Save the result
          swi              ;End program (return to monitor in HC12)



DATA:     section .data    ;The stuff which follows is data
          org     data
input:    dc.b    $07      ;first input data
result:   ds.b    2        ;reserve two bytes for results
```

What is the value of Register `A` after each instruction of the program has executed? (E.g., after the instruction `ldaa input`, Register A will have a `$07` in it.)

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

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