EE 308 – Homework 1

1. Explain what the command BF 2000 20FF AA of the D-Bug 12 monitor does. (You may need to look in the manual Reference Guide for D-Bug12.)

2. Convert your name to ASCII. For example, if your name is "Jane Smith", the answer will be become:

J	a	n	e		S	m	i	t	h
0x4A	0x61	0x6E	0x65	0x20	0x53	0x6D	0x69	0x74	0x68

3. Consider the following MC9S12 program:

```
; MC9S12 demo program
; EE 308
; This is a program to add four numbers in memory from $1000 through $1003,
; divide the sum by four, and store the result in address $1004

prog:       equ    $2000        ; Starting address from program
data:       equ    $1000        ; Starting address for data
            org    prog         ; Set initial program counter value

            ldaa   input1       ; A =
            adda   input2       ; A =
            adda   input3       ; A =
            adda   input4       ; A =
            asra                ; A =
            asra                ; A =
            staa   average      ; A =
            swi

            org    data         ; Put data starting at this location
input1:     dc.b   $35           ; First number
input2:     dc.b   $42          ; Second number
input3:     dc.b   $3f          ; Third number
input4:     dc.b   $2c          ; Fourth number
average:    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 0x35 in it.) You do not need to consider the swi instruction.

4. What is the addressing mode for each of the following instructions:
- ldaa input1
- asra

5. What are the address of RAM in the MC9S12 which are available to you for your program and data?