CPE/EE 421/521: Laboratory Assignment 1

Purpose: To study the 68000 instruction set and the Easy68K simulator; and to utilize them to write M68K assembly programs.

Getting started:
To download and learn more about Easy68K visit the following Web site:
http://www.monroeccc.edu/ckelly/EASy68K.htm
The latest version of the simulator is v3.5. Read help and become familiar with the simulator I/O operations.

An example: The example below prints a string pointed to by the register A1.

*-----------------------------------------------------------
* Program Number: 0.1
* Written by : A. Milenkovic
* Date Created : January 2005
* Description : Display a string pointed to by the register A1
*-----------------------------------------------------------
NL EQU $0A
CR EQU $0D
START ORG $1000
LEA STRG,A1  load address of STRG into A1
MOVE.W SIZE,D1   load D1 with the string size
MOVE.B #0,D0   load D0 with 0 (print string)
TRAP #15
STRG dc.b 'Hello World!',CR,NL,'Hello World (again)!',CR,NL
SIZE dc.w SIZE-STRG         define the size of the string
STOP #$2000
END START

To learn what other students have done, check the following Web site:

Assignment #1: Write a program that performs the following operations on an integer array A:
1: Reads in integer arrays; the program first prompts the user to enter the size (SIZE <= 64) of the array.
2: Displays the stored array
3: Displays the array in the reverse order
4: Displays the sorted array in descending order
5: Displays MAX and MIN elements
6: Calculates and displays the sum of the array

Your main loop of the program should provide an interface that will let the user select which one of 6 functions described above should be performed.

Assignment #2: Write a program that reads in two numerical strings A and B (maximum length is 16 characters) and calculates strings C and D, C = A + B, and D = A – B. Each string may have a leading sign character ('+' or '-', in addition to max 16 numerical characters).

Submission: Check lab submission policy at the course Web site:
http://www.ece.uah.edu/~milenka/cpe421-06F/.