COE 205, Term 071

Computer Organization & Assembly Programming

Programming Assignment# 1
Due date: Saturday, Nov. 24, 2007

Q.1. Write an assembly program that does the following:

(i) Ask the user to enter matrix dimension N and read it.

(ii) Ask the user to enter an NxN matrix of signed integers, M1. Assume that the integers are stored in words.

(iii) Ask the user to enter another NxN matrix of signed integers, M2. Assume that the integers are stored in words.

(iv) Print the two entered matrices.

(v) Print the matrix resulting from multiplying the two matrices M1 and M2. Note that to multiply two word integers x and y, you can use the IMUL instruction, where one integer is stored in register AX and the other is stored in any other register, say BX. Then, you can use the instruction IMUL BX to perform the multiplication. The result of multiplying AX and BX will be stored in register EAX. You need store the result of matrix multiplication in an array of double words.

A sample execution of the program is shown below:

Enter matrix dimension: 2
Enter first matrix:
1
2
3
4

Enter second matrix:
5
6
7
8

First entered matrix is:
1 2
3 4

Second entered matrix is:
5 6
7 8

Result of matrix multiplication is:
19 22
43 50

The solution should be well organized and your program should be well documented. Submit a soft copy of your solution in a zip file. Your solution should be submitted in a word file that contains the following items:

- ***i) Your name and ID***
- ***ii) Assignment number***
- ***iii) Problem statement***
- ***iv) Your solution along with the code***
- ***v) Discussion of what worked and what did not work in your program. Include snapshots that demonstrate the working parts of your program. If things did not work and you attempted to solve them, mention that and write about the difficulty that you have faced.***

The soft copy should also contain both source code file (i.e. .asm) and the executable file (i.e. .exe).