COE 205, Term 091

Computer Organization & Assembly Programming

Programming Assignment# 2
Due date: Saturday, Dec. 19, 2009

Q.1. You are required to write a procedure, **CharDist** that receives as arguments the address of a string of characters and its length passed through the stack. The procedure will count the number of times alphabetic characters ('a' to 'z' both upper and lower case) occur. Then, it displays a histogram chart showing characters distribution by displaying N stars for a character that is encountered N times. The procedure should preserve all used registers. Write a program to call this procedure to display character distribution of any string entered by the user. A sample execution of the program is given below.

Enter a string of characters: I like assignment#2!!

Character Distribution:

```
A  *
E  * *
G *
I  * * *
K *
L *
M *
N * *
S * *
T *
```

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).