

COE 205, Term 071

Computer Organization & Assembly Programming

Programming Assignment# 2 Due date: Monday, Dec. 3, 2007

- Q.1.** You are required to write a procedure, **RECT**, that receives an **(x, y) coordinate** of the **top left corner** of a rectangle and a **rectangle length, l**, and draws a rectangle of dots. The procedure will receive the (x, y) coordinate and the rectangle length through the stack. Make sure to preserve all registers used inside the procedure.
- Q.2.** Using the procedure developed in **Q.1**, write an assembly program that does the following:
- (i) Ask the user to enter a maximum rectangle length.
 - (ii) Ask the user to enter the number of rectangles to be displayed.
 - (iii) Randomly generate a color for the rectangle, an (x, y) coordinate within the maximum window size, a rectangle length within the maximum size specified by the user. Draw the rectangle using the procedure **RECT**. Then, wait for 1.5 s and delete the drawn rectangle. Draw a number of rectangles as selected by the user. Make sure that the randomly generated color is not black (i.e. 0) and that the minimum randomly generated rectangle size is 2.

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).