National University of Computer and Emerging Sciences

Lab Manual

Computer Organization and Assembly Language

Lab 10

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Class	CS3
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Objectives

- Hardware/Software Interrupts
- Graphics Mode
- Video Memory
- Design 2D Graphics

Contents

 Note for all questions: You can make as many memory variables, subroutines as you need. Must read all the manual before starting.

ACTIVITY 1:   [20 Marks]

Write a program to make asterisks travel the border of the screen, from upper left to upper right to lower right to lower left and back to upper left indefinitely, making each movement after one second.

ACTIVITY 2:   [40 Marks]

Write a TSR to clear the screen when CTRL key is pressed and restore it when it is released.

ACTIVITY 3:   [40 Marks]

Write a TSR to calculate the current typing speed of the user. Current typing speed is the number of characters typed by the user in the last five seconds. The speed should be represented by printing asterisks at the right border (80th column) of the screen starting from the upper right to the lower right corner (growing downwards). Draw n asterisks if the user typed n characters in the last five seconds. The count should be updated every second.

REFERENCES

[1] http://vitaly_filatov.tripod.com/ng/asm/asm_023.1.html
[2] http://www.dosbox.com/download.php?main=1
[3] http://sourceforge.net/projects/nasm
[4] http://www.nasm.us/
[5] http://www.programmersheaven.com/download/21643/download.aspx (AFD)