BRAC UNIVERSITY

Inspiring Excellence

Department of Computer Science and Engineering

Course Code: CSE341	Credits: 1.5
Course Name: Microprocessors	Semester: Fall'18

Lab 11

Configuring EMU/MDA8086 Trainer Kit

I. Topic Overview:

This lab is designed to introduce students with configuration of the EMU/MDA8086 Trainer Kit.

II. Lesson Fit:

In order to do the lab with ease, the student must have completed:

a. Lab 10 'Introduction to EMU/MDA8086 Trainer Kit'

III. Learning Outcome:

After this lecture, the students will be able to:

a. Have knowledge on how to write basic codes using the kit.

b. Get hands-on knowledge on incorporating the instructions.

IV. Anticipated Challenges and Possible Solutions

None Yet

V. Acceptance and Evaluation

Students will show the problems to the instructor one by one after completion. Those who won't be able to finish the assigned tasks in time will show them in the next class. There will be a short viva for the students who will show the finished tasks on the next day to check if they completed the tasks by themselves. A deduction of 30% will be there for late submission. The marks distribution is as follows:

Code: 50%

Viva: 50%

VI. Activity Detail

a. Hour: 1

Discussion: Basic Operation:

On a power-up, following message will be displayed on a LCD.

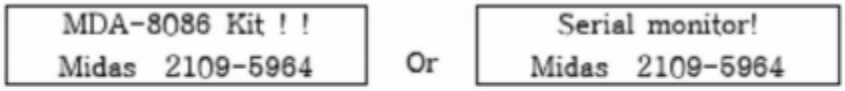
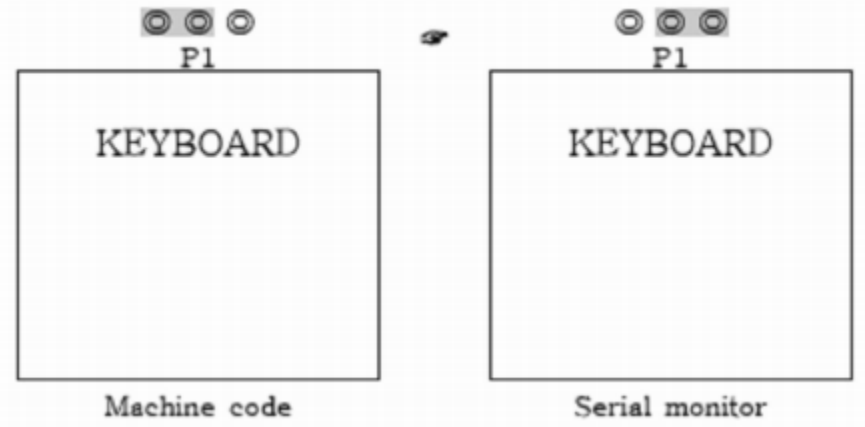


Figure 5: Power on monitor

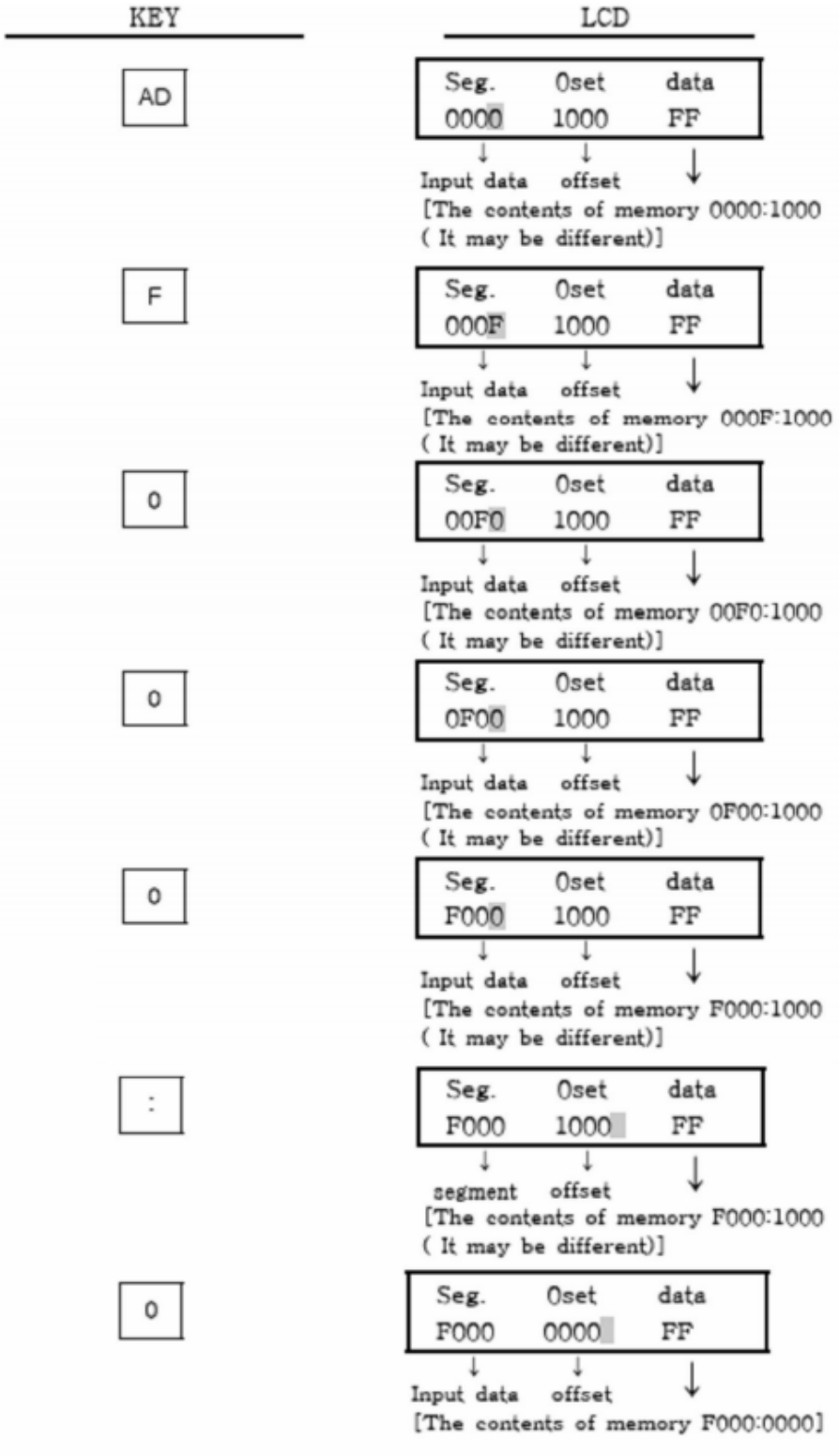
To use "Machine Code" mode, move jumper P1 which located on the PCB like this.



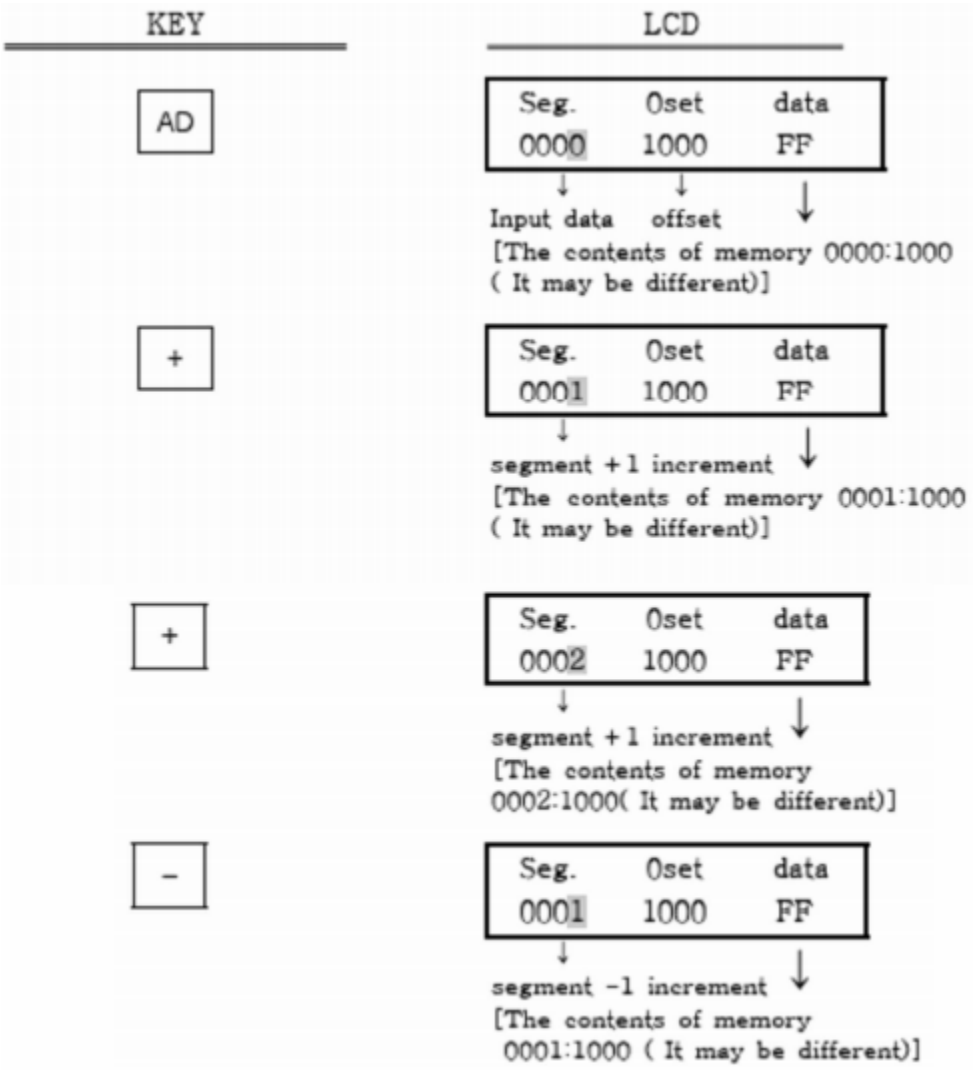
Whenever RES is pressed, the display becomes Figure 5 and user can operate keyboard only in this situation.

HEXA-DIGIT KEY: Substitute to segment & offset address.

Example 1: Check the contents in memory



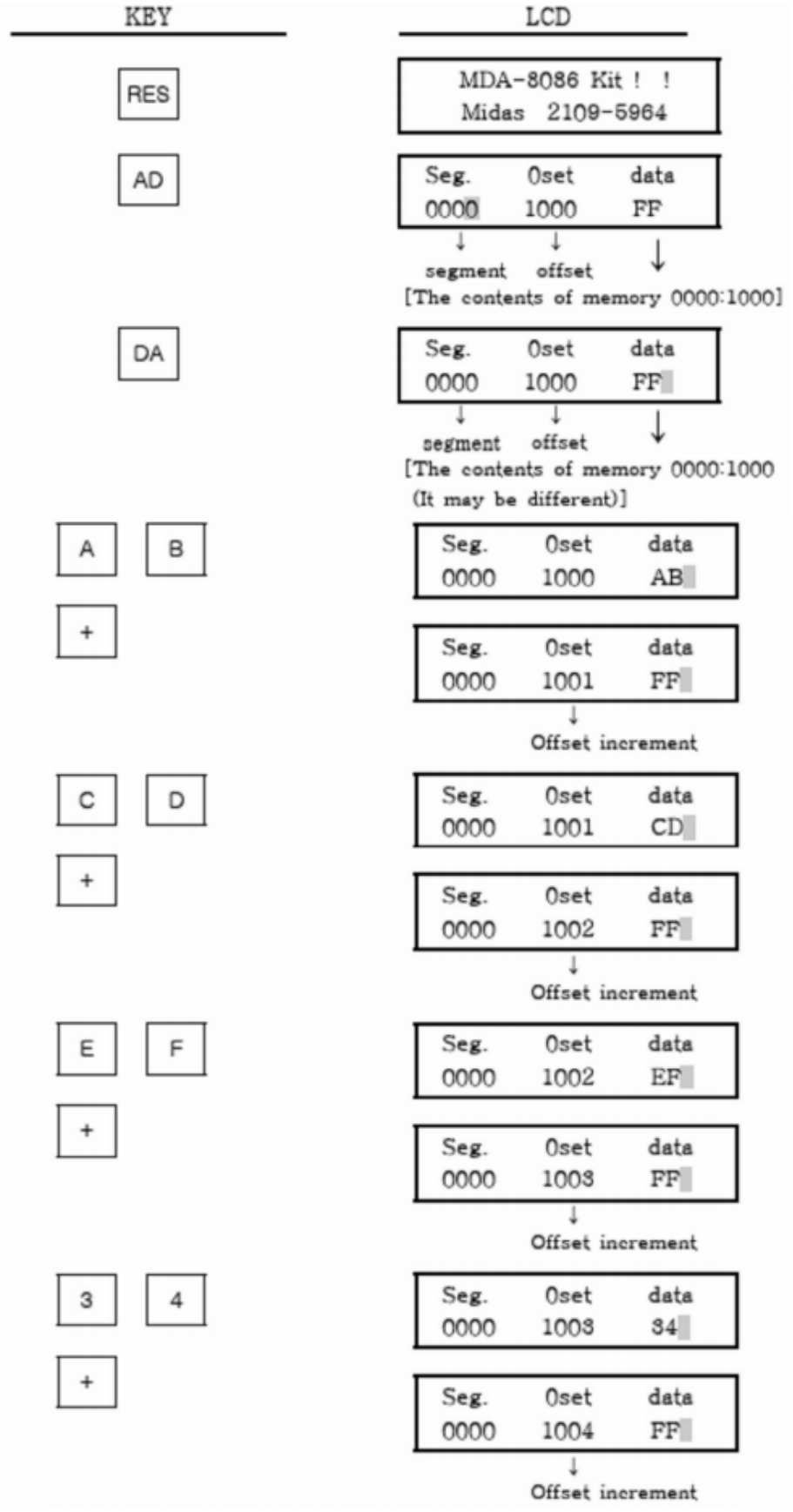
AD , + , − KEY : Increment and decrement to segment & offset address.



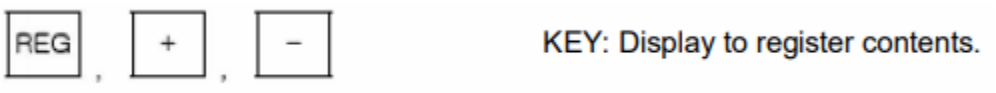
DA HEXA-DIGIT KEY: Update to memory contents.

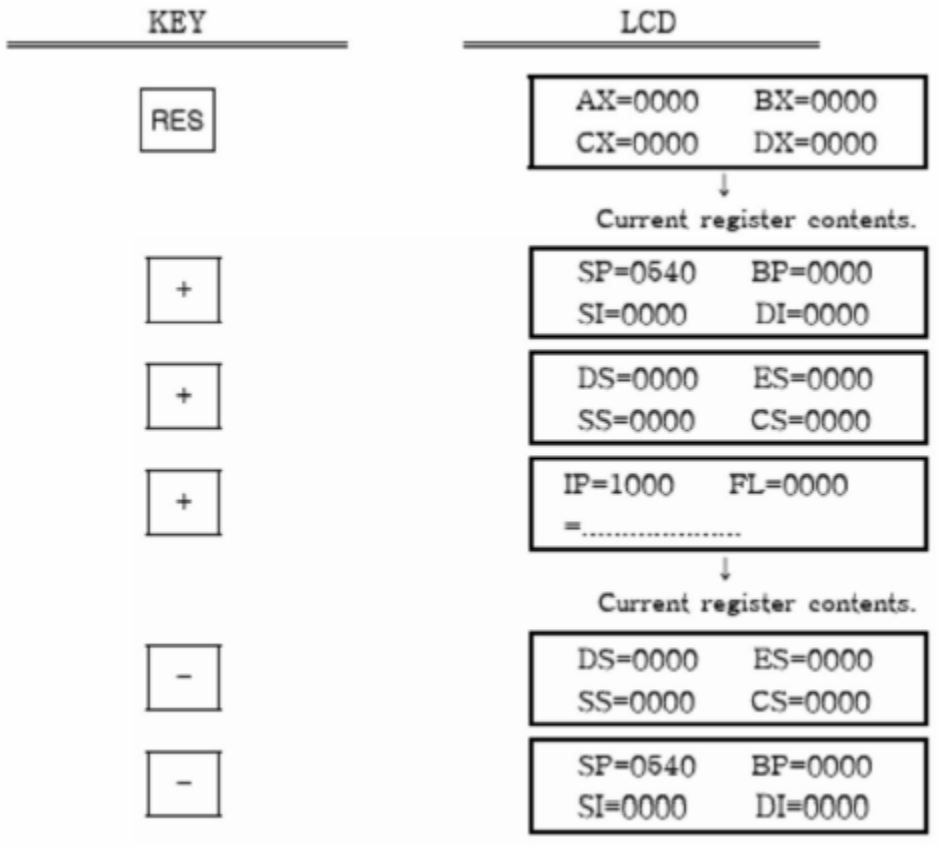
Example 2: Let's store the following like to 01000H ~ 01003H contents.

ADDRESS	DATA
01000	AB
01001	CD
01002	EF
01003	34


KEY
LCD
RES
MDA-8086 Kit ! !
Midas 2109-5964
AD
Seg. 0set data
0000 1000 FF
segment offset
[The contents of memory 0000:1000]
DA
Seg. 0set data
0000 1000 FF
segment offset
[The contents of memory 0000:1000
(It may be different)]
A B
Seg. 0set data
0000 1000 AB
+
Seg. 0set data
0000 1001 FF
Offset increment
C D
Seg. 0set data
0000 1001 CD
+
Seg. 0set data
0000 1002 FF
Offset increment
E F
Seg. 0set data
0000 1002 EF
+
Seg. 0set data
0000 1003 FF
Offset increment
3 4
Seg. 0set data
0000 1003 34
+
Seg. 0set data
0000 1004 FF
Offset increment

Example 3: Display the register contents.





Lab Exercise: Store the following date to the specified memory location:

ADDRESS	DATA
01050	C0
01081	6F
01022	EF
01073	DA