



Computer Organization & Assembly Language

LAB 08

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BSCS-3

Task 1

The figure shows the emu8086 software interface. The main window displays assembly code:

```
01 ; You may customize this and other start-up templates;
02 ; The location of this template is c:\emu8086\inc\0_com_template.txt
03 ;Mahnoor Zahid 66572
04
05 org 100h
06
07 mov cx,26
08 mov dx,97
09
10 L1:
11 mov ah,2
12 int 21h
13 inc dx
14
15 loop L1
16
17 ret
18
19
```

A secondary window titled "emu8086 emulator screen (50x11 chars)" is open, showing the output of the assembly code execution. The screen displays the lowercase alphabet from 'a' to 'z'. A tooltip "Rectangular Snip" is visible over the window.

Task 2

The screenshot shows the emu8086 interface with the following details:

- File Menu:** file edit bookmarks assembler emulator math ascii codes help
- Toolbar:** new open examples save compile emulate calculator converter options help about
- Assembly Code (Left Panel):**

```
01 ; You may customize this and other start-up templates;
02 ; The location of this template is c:\emu8086\inc\0_com_template.txt
03 ; Mahnoor Zahid 66572
04 org 100h
05
06 mov ah,1
07 int 21h
08 mov bl,al
09
10 mov cx,10
11
12 L1:
13 mov ah,2
14 mov dl,13
15 int 21h
16 mov dl,10
17 int 21h
18
19 mov dl,bl
20 int 21h
21
22 Loop L1
23
24 ret
```
- Emulator Window (Right Panel):**
 - Title: 8086 emulator screen (40x11 chars)
 - Content: The window displays the character 'a' repeated 10 times vertically.
 - Bottom Buttons: clear screen, change font, 0/16

Task 3

emu8086 - assembler and microprocessor emulator 4.08

file edit bookmarks assembler emulator math ascii codes help

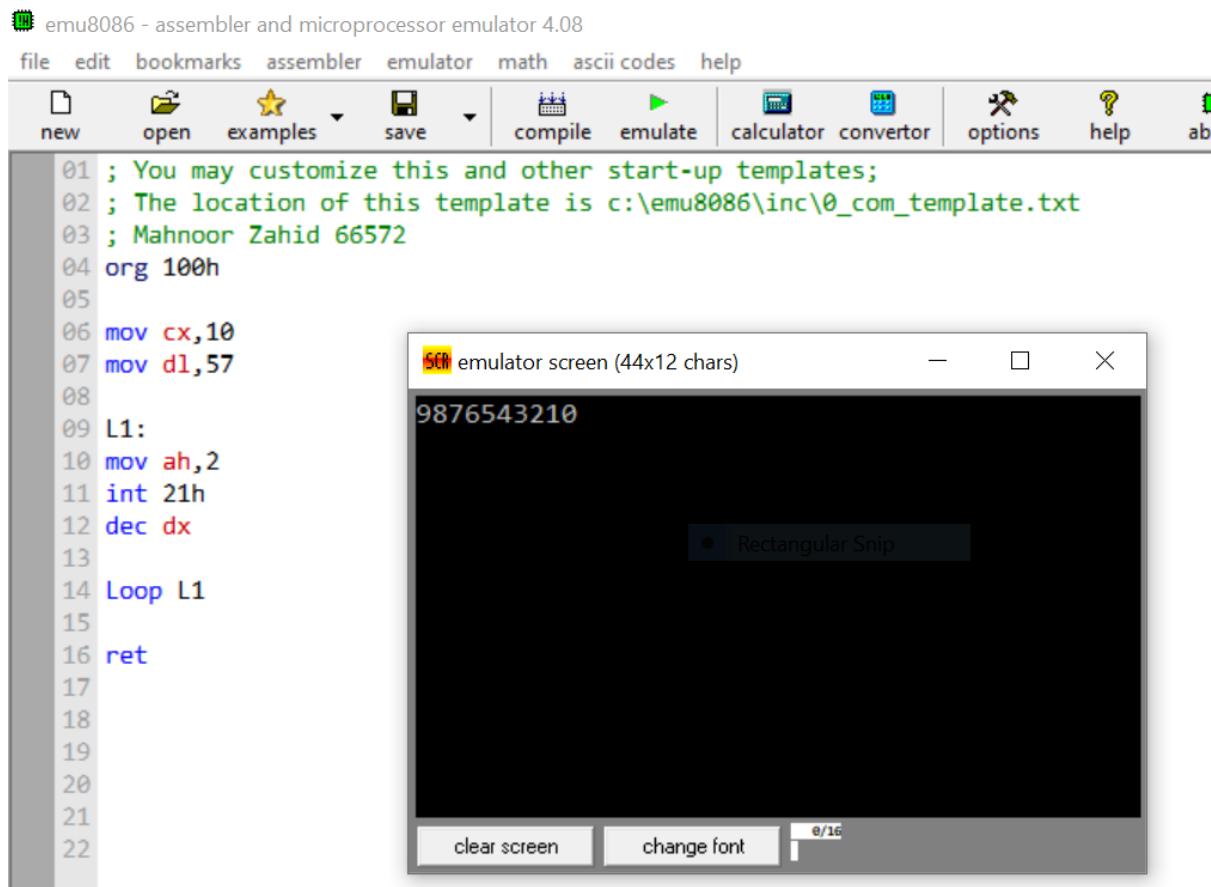
new open examples save compile emulate calculator convertor options help about

```
01 ; You may customize this and other start-up templates;
02 ; The location of this template is c:\emu8086\inc\0_com_template.txt
03 ; Mahnoor Zahid 66572
04 org 100h
05
06 mov cx,10
07 mov dl,57
08
09 L1:
10 mov ah,2
11 int 21h
12 dec dx
13
14 Loop L1
15
16 ret
17
18
19
20
21
22
```

SC emulator screen (44x12 chars)

9876543210

clear screen change font 8/16



Task 4

emu8086 - assembler and microprocessor emulator 4.08

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new open examples save compile emulate calculator convertor options help about

```
01 ; You may customize this and other start-up templates;
02 ; The location of this template is c:\emu8086\inc\0_com_template.txt
03 ;Mahnoor Zahid 66572
04 org 100h
05
06 mov ax, 0
07 mov bx, 1
08 mov cx,3
09
10 L1:
11 add ax, bx
12 inc bx
13
14 Loop L1
15 mov dx, ax
16 add dl, '0'
17 mov ah, 2
18 int 21h
19
20 ret
```

SC emulator screen (41x11 chars)

6

clear screen change font 8/16

