Computer Organization & Assembly Language

LAB 09

Submitted to:

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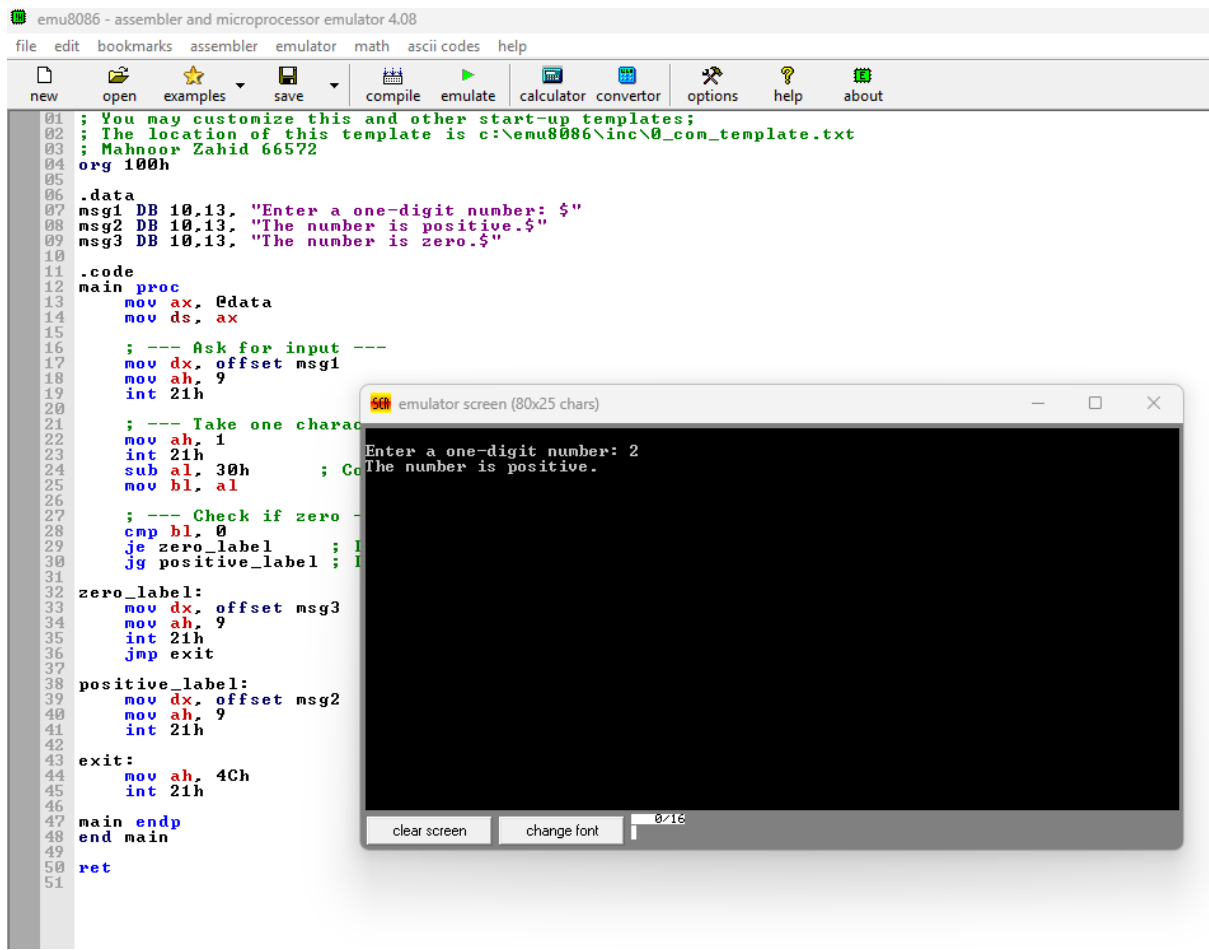
Submitted by:

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BSCS-3

Task 1


```asm
; You may customize this and other start-up templates;
; The location of this template is c:\emu8086\inc\0_com_template.txt
; Mahnoor Zahid 66572
org 100h

.data
msg1 DB 10,13, "Enter a one-digit number: $"
msg2 DB 10,13, "The number is positive.$"
msg3 DB 10,13, "The number is zero.$"

.code
main proc
    mov ax, @data
    mov ds, ax

    ; --- Ask for input ---
    mov dx, offset msg1
    mov ah, 9
    int 21h

    ; --- Take one charac
    mov ah, 1
    int 21h
    sub al, 30h        ; Co
    mov bl, al

    ; --- Check if zero -
    cmp bl, 0
    je zero_label       ; I
    jg positive_label ; I

zero_label:
    mov dx, offset msg3
    mov ah, 9
    int 21h
    jmp exit

positive_label:
    mov dx, offset msg2
    mov ah, 9
    int 21h

exit:
    mov ah, 4Ch
    int 21h

main endp
end main

ret
```
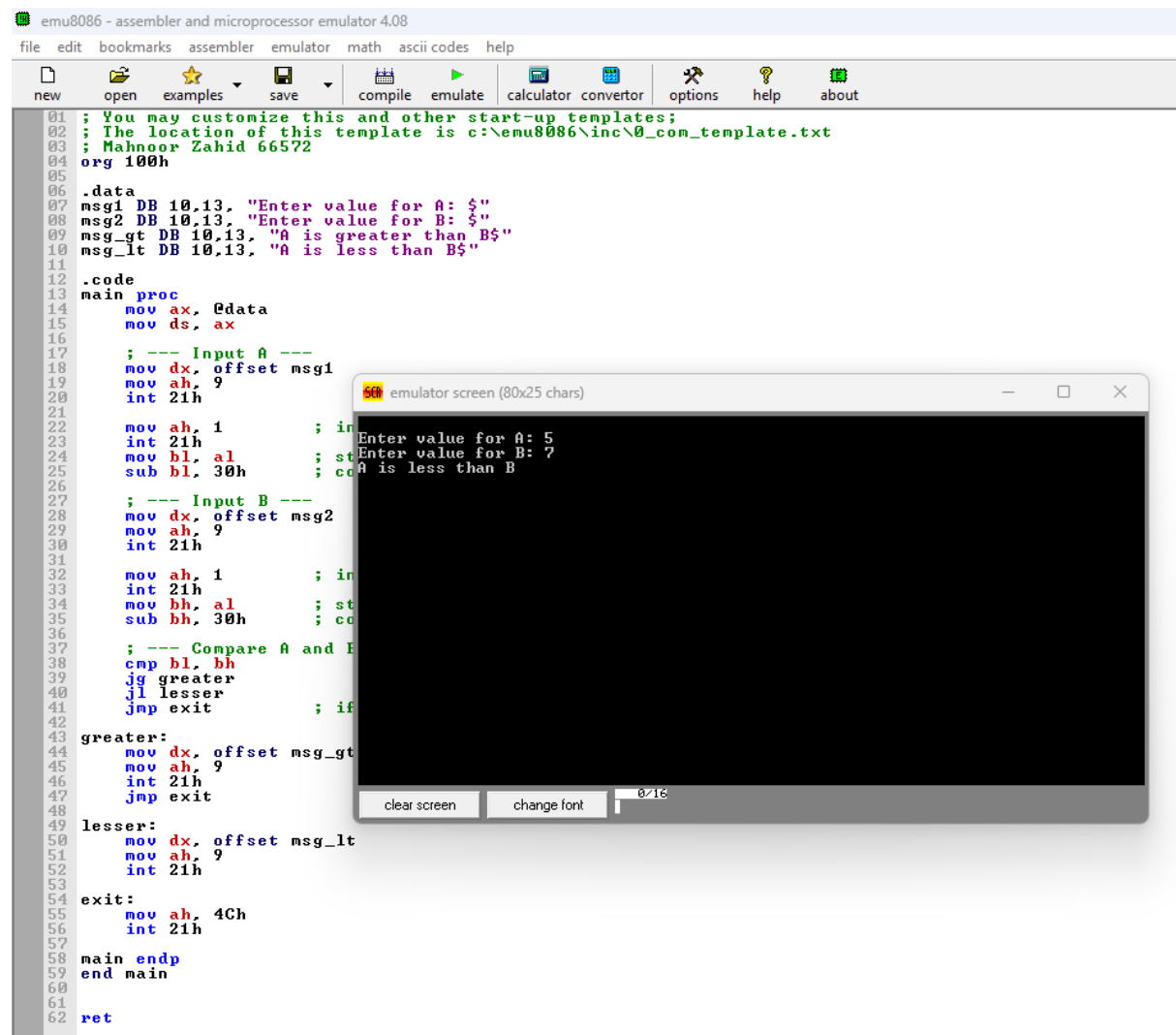
Task 2

```
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  .data
07  msg1 DB 10,13, "Enter value for A: $"
08  msg2 DB 10,13, "Enter value for B: $"
09  msg_gt DB 10,13, "A is greater than B$"
10  msg_lt DB 10,13, "A is less than B$"
11
12  .code
13  main proc
14      mov ax, @data
15      mov ds, ax
16
17      ; --- Input A ---
18      mov dx, offset msg1
19      mov ah, 9
20      int 21h
21
22      mov ah, 1          ; in
23      int 21h
24      mov bl, al         ; st
25      sub bl, 30h        ; co
26
27      ; --- Input B ---
28      mov dx, offset msg2
29      mov ah, 9
30      int 21h
31
32      mov ah, 1          ; in
33      int 21h
34      mov bh, al         ; st
35      sub bh, 30h        ; co
36
37      ; --- Compare A and B
38      cmp bl, bh
39      jg greater
40      jl lesser
41      jmp exit           ; if
42
43  greater:
44      mov dx, offset msg_gt
45      mov ah, 9
46      int 21h
47      jmp exit
48
49  lesser:
50      mov dx, offset msg_lt
51      mov ah, 9
52      int 21h
53
54  exit:
55      mov ah, 4Ch
56      int 21h
57
58  main endp
59  end main
60
61
62  ret
```

emulator screen (80x25 chars)

```
Enter value for A: 5
Enter value for B: 7
A is less than B
```

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clear screen   change font