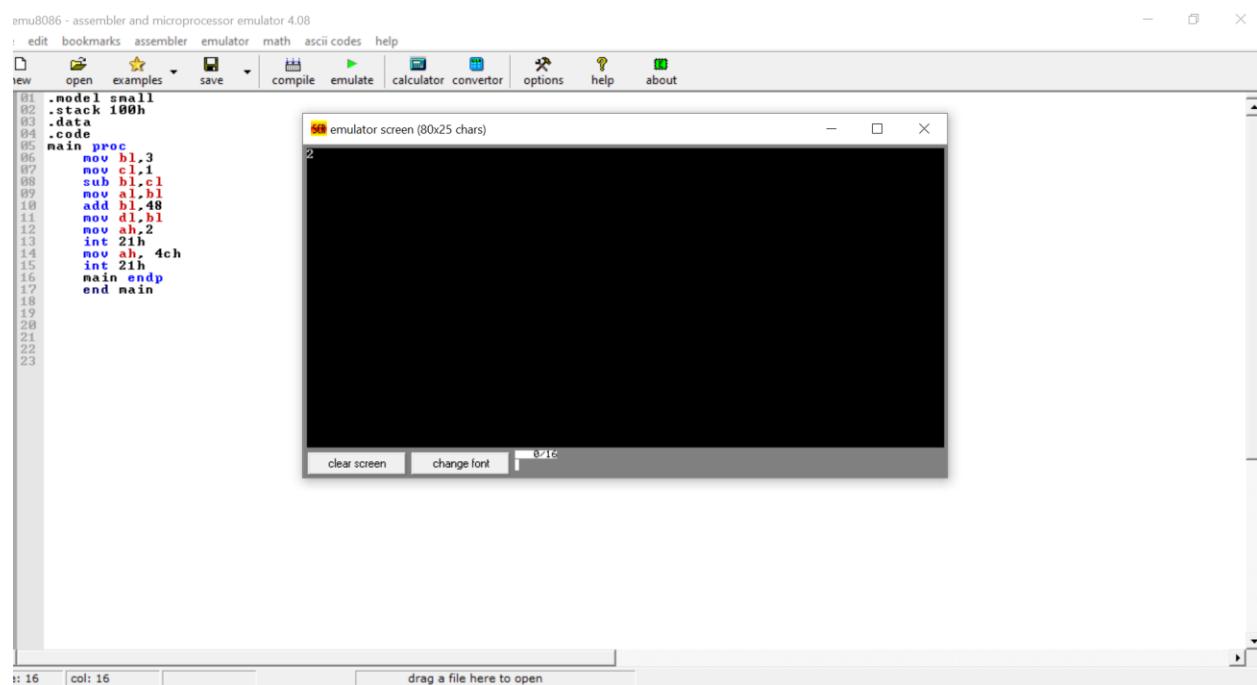


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Lab 5

Task 1:



The screenshot shows theemu8086 - assembler and microprocessor emulator 4.08 interface. The assembly code window contains the following code:

```
.model small
.stack 100h
.data
.code
main proc
    mov bl,3
    mov cl,1
    sub bl,cl
    mov al,bl
    add bl,48
    mov ah,bl
    mov ah,2
    int 21h
    mov ah,4ch
    int 21h
main endp
end main
```

The emulator screen window shows a black screen with the number '2' at the top left. The status bar at the bottom indicates 't: 16 col: 16' and 'drag a file here to open'.

emu8086 - assembler and microprocessor emulator 4.08

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```
01 .model small
02 .stack 100h
03 .data
04 .code
05 main proc
06 mov ah,1
07 int 21h
08 mov dx,al
09 mov ah,2
10 int 21h
11 mov ah,4ch
12 int 21h
13 main endp
14 end main
```

33

60 emulator screen (80x25 chars)

clear screen change font 8/16

line: 7 col: 13 drag a file here to open

This screenshot shows the emu8086 interface. The assembly code for a simple program is visible in the editor window. An empty emulator window titled 'emulator screen (80x25 chars)' is displayed. The Windows taskbar at the bottom shows various application icons.

emu8086 - assembler and microprocessor emulator 4.08

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```
01 .model small
02 .stack 100h
03 .data
04 .code
05 main proc
06 mov ah,1
07 int 21h
08 mov bl,al
09 mov ah,1
10 int 21h
11 sub bl,al
12 add al,48
13 mov dl,bl
14 mov ah,2
15 int 21h
16
17
18
19
20
21
22
23
24
25
26
27
28
```

523

60 emulator screen (80x25 chars)

clear screen change font 8/16

line: 16 col: 49 drag a file here to open

This screenshot shows the emu8086 interface again. The assembly code has been modified to include additional instructions like 'sub bl,al' and 'add al,48'. An empty emulator window titled 'emulator screen (80x25 chars)' is displayed. The Windows taskbar at the bottom shows various application icons.

ask 2:

The screenshot shows the emu8086 assembly editor interface. On the left, the assembly code is displayed:

```
07 mov ah,1
08 int 21h
09 sub al,30h ; convert ASCII ? number
10 mov bl,al ; store in bl
11
12         ; Read 2nd digit
13
14
15 mov dl,43
16 mov ah,2 ; printing +
17 int 21h
18
19
20 mov ah,1
21 int 21h
22 sub al,30h
23 add bl,al ; bl = first + second
24
25
26
27
28 mov dl,43
29 mov ah,2 ; printing +
30 int 21h
31
32         ; Read 3rd digit
33
34 mov ah,1
35 int 21h
36 sub al,30h
37 add bl,al ; bl = first + second + third
38
39
40
41 mov dl,61
42 mov ah,2 ; printing =
43 int 21h
44
45
46
47         ; Convert result to ASCII
48 add bl,30h
49 mov dl,bl
50
51 mov ah,2 ; Display sum
52 int 21h
```

On the right, the emulator screen displays the text "5+1+1=?". Below the screen are buttons for "clear screen", "change font", and a font size selector set to 8/16. At the bottom of the editor, there are search and file-related buttons.

Task 3:

The screenshot shows the emu8086 interface. The assembly code in the editor window is as follows:

```
emu8086 - assembler and microprocessor emulator 4.08
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main proc
    mov ah,1
    int 21h
    sub al,48
    mov bl,al
    mov dl,45
    mov ah,2
    int 21h
    sub bl,al ;bl-al = cl
    mov dl,43
    mov ah,2
    int 21h
    mov ah,1
    int 21h
    sub al,48
    add bl,al ;cl + al
    mov dl,45
    mov ah,2
    int 21h
    mov dl,'1'
    mov ah,2
    int 21h
    sub bl,1 ;-1 from overall result
    add bl,48
    mov dl,61
    mov ah,2
    int 21h
    mov dl,bl
    mov ah,2

line: 40 col: 14 drag a file here to open
Type here to search
```

The emulator screen window displays the output: "5-2*3-1=5". At the bottom of the screen window, there are buttons for "clear screen", "change font", and a font size selector set to "8/16".