

UNIVERSITY OF KARACHI



ASSEMBLY LANGUAGE PROGRAMMING

BSCS-403

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Class Roll No: 34

Section: A

Semester No: 3rd

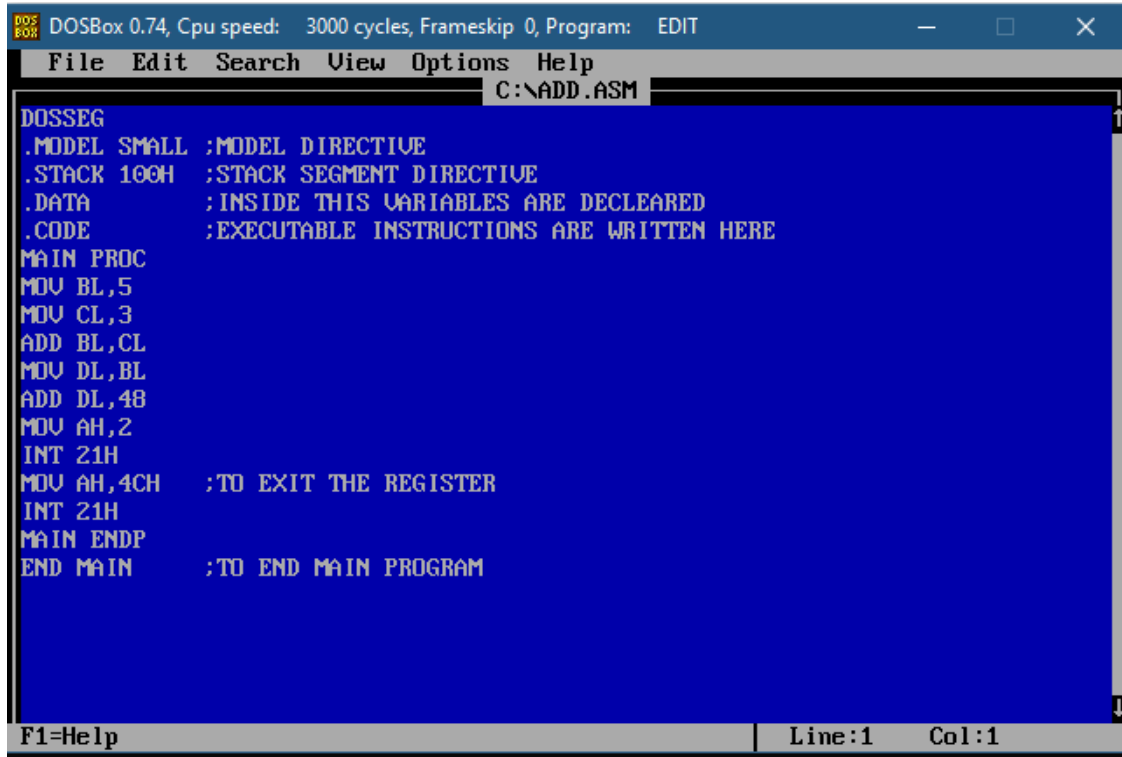
Submitted to: MS FARHEEN FAISAL SIDDIQUI

DEPARTMENT OF COMPUTER SCIENCE

UNIVERSITY OF KARACHI

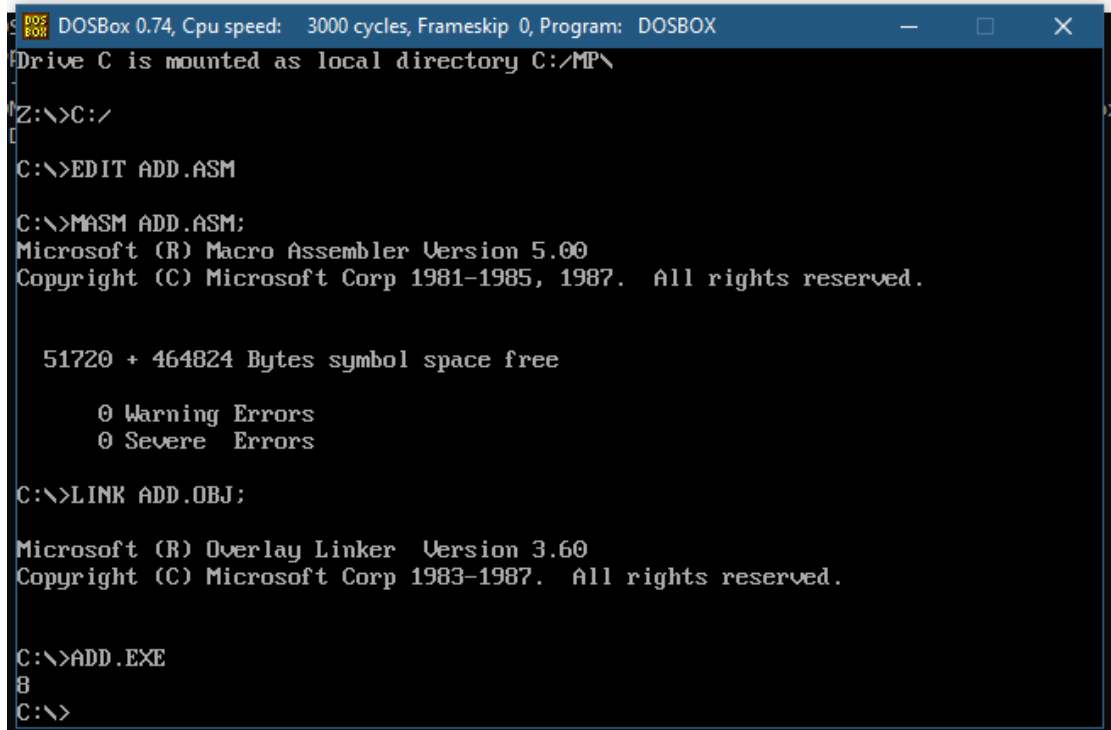
ASSIGNMENT 2

1. PROGRAM TO ADD TWO NUMBERS:



```
DOSSEG
.MODEL SMALL :MODEL DIRECTIVE
.STACK 100H :STACK SEGMENT DIRECTIVE
.DATA      :INSIDE THIS VARIABLES ARE DECLEARED
.CODE      :EXECUTABLE INSTRUCTIONS ARE WRITTEN HERE
MAIN PROC
MOV BL,5
MOV CL,3
ADD BL,CL
MOV DL,BL
ADD DL,48
MOV AH,2
INT 21H
MOV AH,4CH :TO EXIT THE REGISTER
INT 21H
MAIN ENDP
END MAIN :TO END MAIN PROGRAM
```

F1=Help | Line:1 Col:1

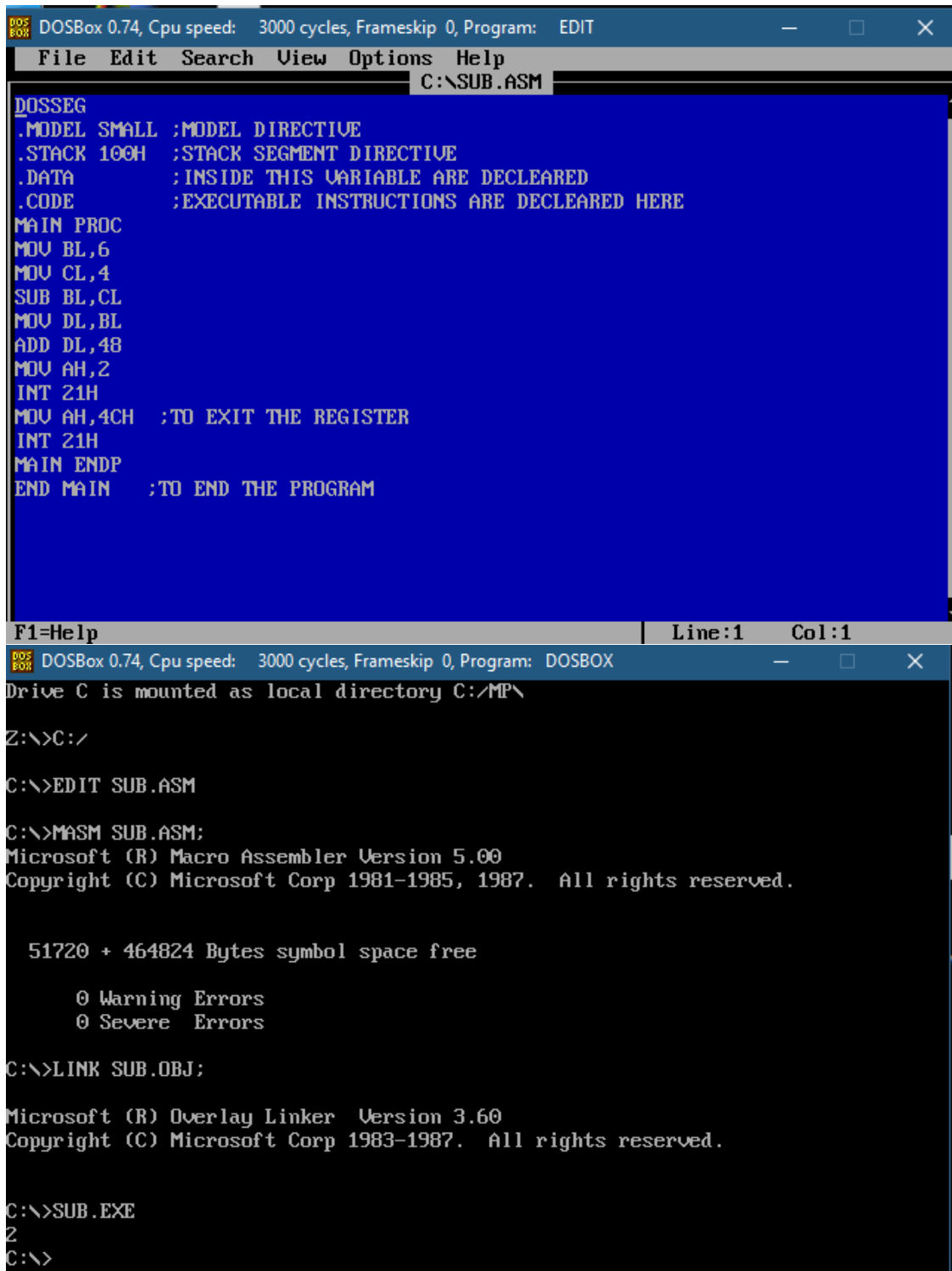


```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX
Drive C is mounted as local directory C:/MP\
Z:\>C:/
C:\>EDIT ADD.ASM
C:\>MASM ADD.ASM:
Microsoft (R) Macro Assembler Version 5.00
Copyright (C) Microsoft Corp 1981-1985, 1987. All rights reserved.

51720 + 464824 Bytes symbol space free

0 Warning Errors
0 Severe Errors
C:\>LINK ADD.OBJ:
Microsoft (R) Overlay Linker Version 3.60
Copyright (C) Microsoft Corp 1983-1987. All rights reserved.
C:\>ADD.EXE
C:\>
```

2. PROGRAM TO SUBTRACT TWO NUMBERS:



The screenshot displays two windows from the DOSBox 0.74 application. The top window, titled 'DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT', shows the assembly source file 'C:\SUB.ASM' in a blue editor. The code defines a small model, sets up a stack, declares data and code segments, and contains a 'MAIN' procedure that subtracts the value in CL from BL, increments the result by 48, and exits via INT 21H. The bottom window, titled 'DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX', shows the command prompt where the program is assembled and linked. It reports 51720 + 464824 bytes of free symbol space, zero warnings or errors, and successfully creates 'SUB.EXE'.

```
DOSSEG
.MODEL SMALL ;MODEL DIRECTIVE
.STACK 100H ;STACK SEGMENT DIRECTIVE
.DATA ;INSIDE THIS VARIABLE ARE DECLEARED
.CODE ;EXECUTABLE INSTRUCTIONS ARE DECLEARED HERE
MAIN PROC
MOV BL,6
MOV CL,4
SUB BL,CL
MOV DL,BL
ADD DL,48
MOV AH,2
INT 21H
MOV AH,4CH ;TO EXIT THE REGISTER
INT 21H
MAIN ENDP
END MAIN ;TO END THE PROGRAM
```

F1=Help | Line:1 Col:1

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX
Drive C is mounted as local directory C:\MP\
Z:\>C:/
C:\>EDIT SUB.ASM
C:\>MASM SUB.ASM;
Microsoft (R) Macro Assembler Version 5.00
Copyright (C) Microsoft Corp 1981-1985, 1987. All rights reserved.

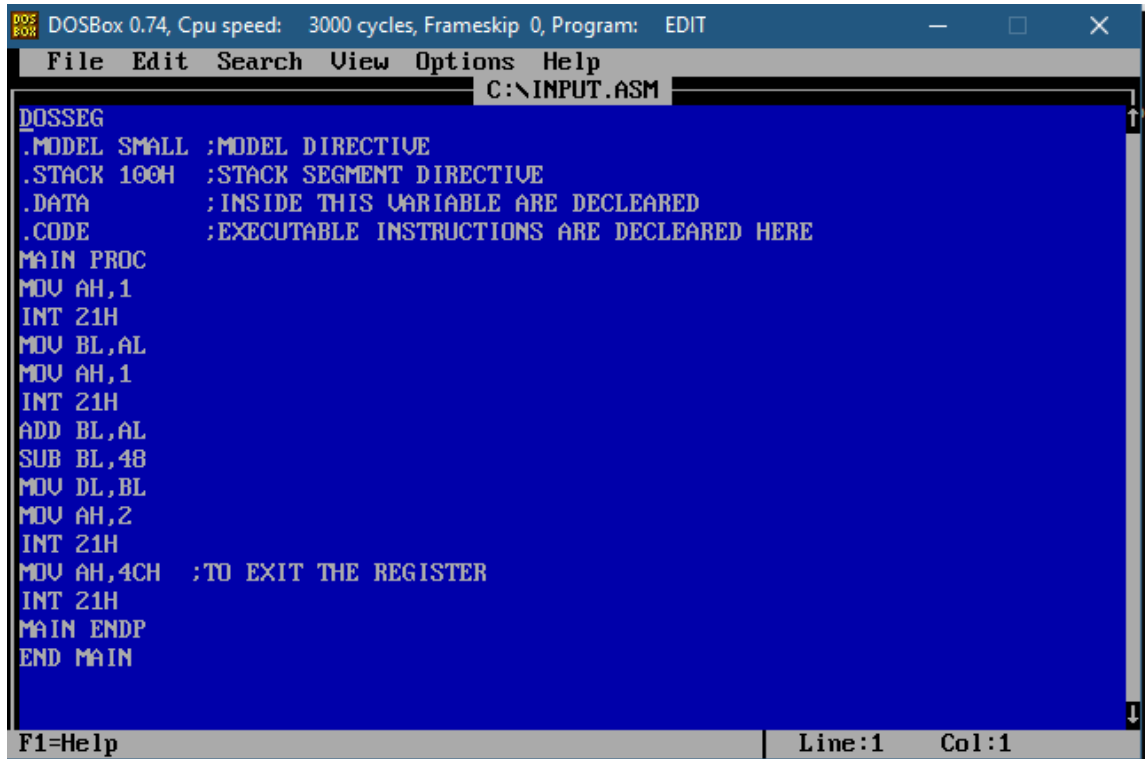
51720 + 464824 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\>LINK SUB.OBJ;
Microsoft (R) Overlay Linker Version 3.60
Copyright (C) Microsoft Corp 1983-1987. All rights reserved.

C:\>SUB.EXE
2
C:\>
```

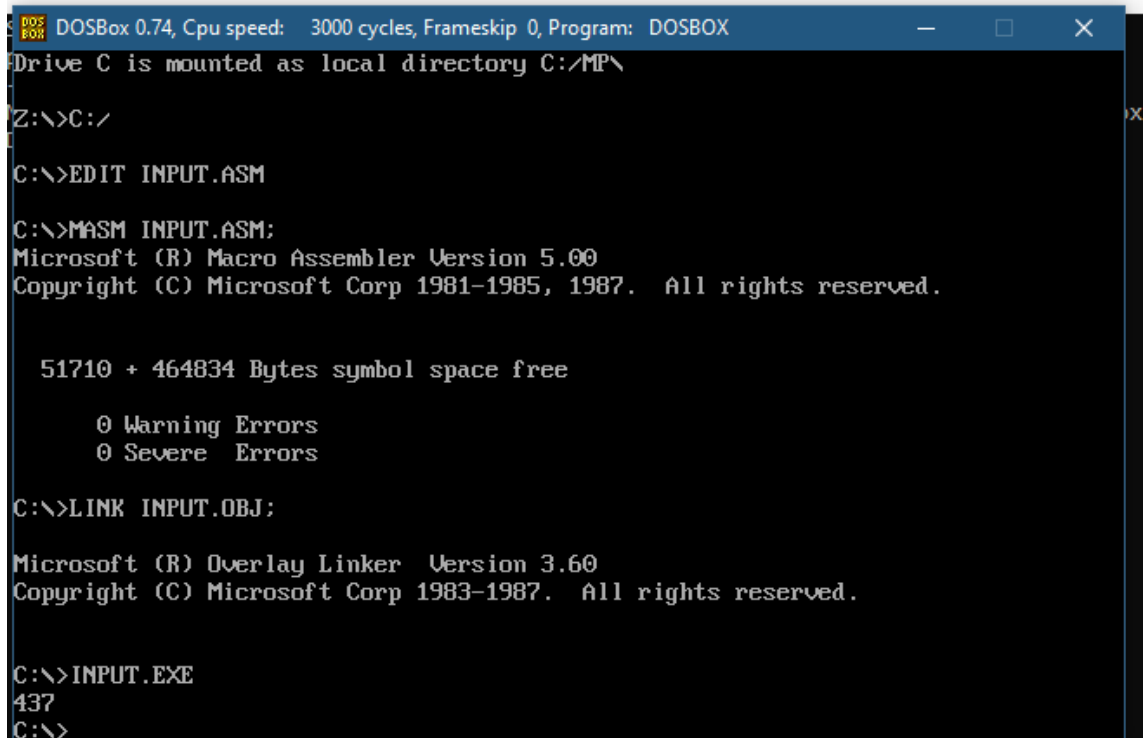
3. INPUT TWO NUMBERS AND ADD THEM:



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT
File Edit Search View Options Help
C:\INPUT.ASM

DOSSEG
.MODEL SMALL ;MODEL DIRECTIVE
.STACK 100H ;STACK SEGMENT DIRECTIVE
.DATA
;INSIDE THIS VARIABLE ARE DECLEARED
.CODE
;EXECUTABLE INSTRUCTIONS ARE DECLEARED HERE
MAIN PROC
MOV AH,1
INT 21H
MOV BL,AL
MOV AH,1
INT 21H
ADD BL,AL
SUB BL,48
MOV DL,BL
MOV AH,2
INT 21H
MOV AH,4CH ;TO EXIT THE REGISTER
INT 21H
MAIN ENDP
END MAIN

F1=Help Line:1 Col:1
```



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX
Drive C is mounted as local directory C:/MP\

Z:\>C:/
C:\>EDIT INPUT.ASM
C:\>MASM INPUT.ASM:
Microsoft (R) Macro Assembler Version 5.00
Copyright (C) Microsoft Corp 1981-1985, 1987. All rights reserved.

51710 + 464834 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\>LINK INPUT.OBJ:
Microsoft (R) Overlay Linker Version 3.60
Copyright (C) Microsoft Corp 1983-1987. All rights reserved.

C:\>INPUT.EXE
437
C:\>
```