



LAB ASSIGNMENT-I

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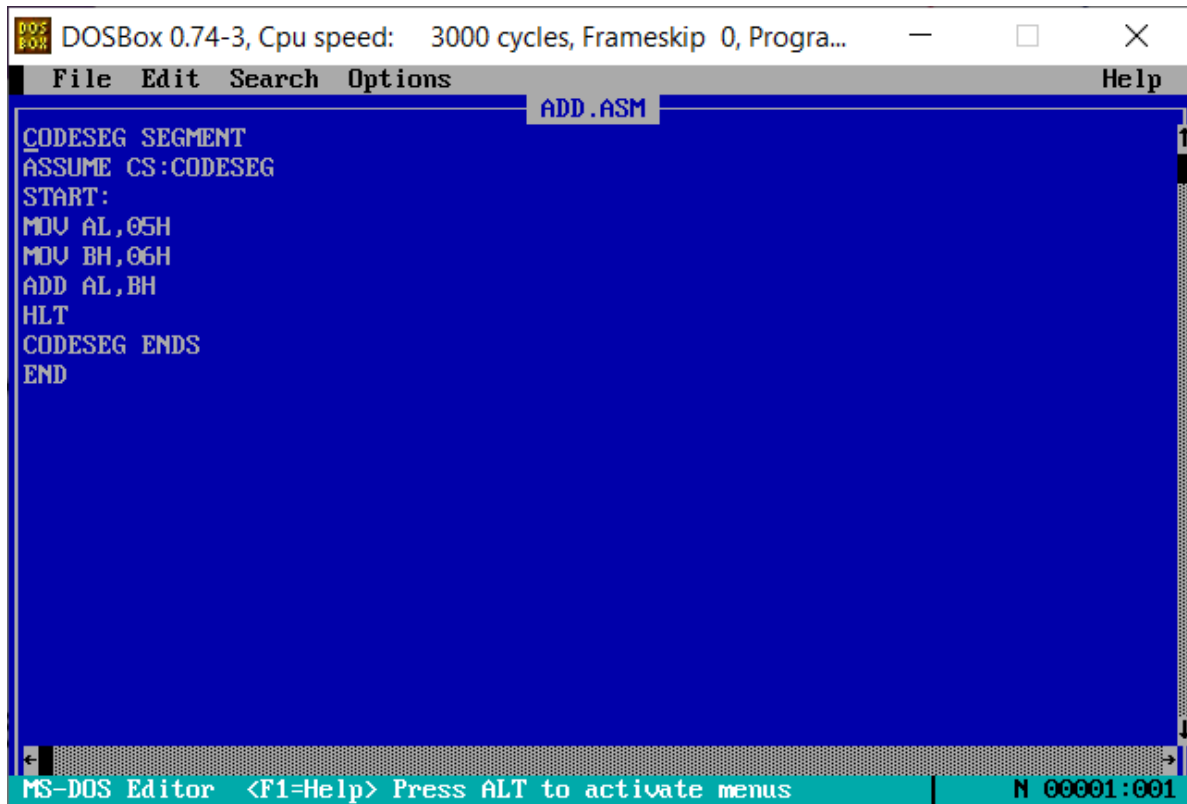
REG NO: 19BCE1396

SUBJECT: MIPS

LAB NO.: I

ADDITION:

Program:



```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
File Edit Search Options Help
ADD.ASM
CODESEG SEGMENT
ASSUME CS:CODESEG
START:
MOV AL,05H
MOV BH,06H
ADD AL,BH
HLT
CODESEG ENDS
END
MS-DOS Editor <F1=Help> Press ALT to activate menus | N 00001:001
```

Input:

```
DOS FOR DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
Drive C is mounted as local directory c:\masm611\
Z:\>c:
C:\>cd bin
C:\BIN>edit add.asm
C:\BIN>debug add.asm
-quit
  ^ Error
-quit
C:\BIN>masm add.asm
Microsoft (R) MASM Compatibility Driver
Copyright (C) Microsoft Corp 1993. All rights reserved.

Invoking: ML.EXE /I. /Zm /c /Ta add.asm

Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: add.asm
C:\BIN>
```

```
DOS FOR DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
C:\BIN>masm add.asm
Microsoft (R) MASM Compatibility Driver
Copyright (C) Microsoft Corp 1993. All rights reserved.

Invoking: ML.EXE /I. /Zm /c /Ta add.asm

Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: add.asm
C:\BIN>link add.obj

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Run File [add.exe]:
List File [nul.map]:
Libraries [.lib]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment
LINK : warning L4038: program has no starting address
C:\BIN>
```

LINK : warning L4038: program has no starting address

C:\BIN>DEBUG ADD.EXE

-U

```
0764:0000 B80610      MOV     AX,1006
0764:0003 BB0509      MOV     BX,0905
0764:0006 03C3        ADD     AX,BX
0764:0008 F4         HLT
0764:0009 BA3C1C      MOV     DX,1C3C
0764:000C 68         DB      68
0764:000D 014070      ADD     [BX+SI+70],AX
0764:0010 1CEB        SBB     AL,EB
0764:0012 2C04        SUB     AL,04
0764:0014 1C04        SBB     AL,04
0764:0016 1C5D        SBB     AL,5D
0764:0018 9E         SAHF
0764:0019 7001        JO      001C
0764:001B 207B1C      AND     [BP+DI+1C],BH
0764:001E 75D6        JNZ     FFF6
```

-G 0008

```
AX=190B  BX=0905  CX=0009  DX=0000  SP=0000  BP=0000  SI=0000  DI=0000
DS=0754  ES=0754  SS=0763  CS=0764  IP=0008  NU UP EI PL NZ NA PO NC
0764:0008 F4         HLT
```

-

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...

File Edit Search Options SUB.ASM Help

```
CODESEG SEGMENT
ASSUME CS:CODESEG
START
MOV AX, 1006H
MOV BX, 0905H
SUB AX,BX
HLT
CODESEG ENDS
END
```

MS-DOS Editor <F1=Help> Press ALT to activate menus 00007:040

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...

```
C:\BIN>masm sub.asm
Microsoft (R) MASM Compatibility Driver
Copyright (C) Microsoft Corp 1993. All rights reserved.

Invoking: ML.EXE /I. /Zm /c /Ta sub.asm

Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: sub.asm

C:\BIN>link sub.obj

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Run File [sub.exe]:
List File [nul.map]:
Libraries [.lib]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment
LINK : warning L4038: program has no starting address

C:\BIN>
```

```
DOS FOR DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
C:\BIN>debug sub.exe
-u
0764:0000 B80610      MOV     AX,1006
0764:0003 BB0509      MOV     BX,0905
0764:0006 2BC3        SUB     AX,BX
0764:0008 F4          HLT
0764:0009 BA3C1C      MOV     DX,1C3C
0764:000C 68          DB      68
0764:000D 014070      ADD     [BX+SI+701],AX
0764:0010 1CEB          SBB     AL,EB
0764:0012 2C04          SUB     AL,04
0764:0014 1C04          SBB     AL,04
0764:0016 1C5D          SBB     AL,5D
0764:0018 9E          SAHF
0764:0019 7001          JO      001C
0764:001B 207B1C        AND     [BP+DI+1C1],BH
0764:001E 75D6          JNZ     FFF6
-g 0008
^ Error
-g 0008

AX=0701 BX=0905 CX=0009 DX=0000 SP=0000 BP=0000 SI=0000 DI=0000
DS=0754 ES=0754 SS=0763 CS=0764 IP=0008  NU UP EI PL NZ NA PO NC
0764:0008 F4          HLT
-
```

```
DOS FOR DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
File Edit Search Options MUL.ASM Help
C0DDSEG SEGMENT
ASSUME CS:CODESEG
START:
MOV AX,06H
MOV BX,05H
MUL BX
HLT
CODESEG ENDS
END

MS-DOS Editor <F1=Help> Press ALT to activate menus N 00001:001
```

```
DOS
BOX
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
LINK : warning L4038: program has no starting address
C:\BIN>debug mul.exe
-u
0764:0000 BB0600      MOV     AX,0006
0764:0003 BB0500      MOV     BX,0005
0764:0006 F7E3        MUL     BX
0764:0008 F4          HLT
0764:0009 BA3C1C      MOV     DX,1C3C
0764:000C 68          DB      68
0764:000D 014070      ADD     [BX+SI+70],AX
0764:0010 1CEB        SBB     AL,EB
0764:0012 2C04        SUB     AL,04
0764:0014 1C04        SBB     AL,04
0764:0016 1C5D        SBB     AL,5D
0764:0018 9E          SAHF
0764:0019 7001        JO      001C
0764:001B 207B1C      AND     [BP+DI+1C],BH
0764:001E 75D6        JNZ     FFF6
-g 0008
AX=001E BX=0005 CX=0009 DX=0000 SP=0000 BP=0000 SI=0000 DI=0000
DS=0754 ES=0754 SS=0763 CS=0764 IP=0008  NU UP EI PL NZ NA PO NC
0764:0008 F4          HLT
-
Launcher
```

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
File Edit Search Options Help
DIV.ASM
CODESEG SEGMENT
ASSUME CS:CODESEG
START:
MOV AX,06H
MOV BX,02H
DIV BX
HLT
CODESEG ENDS
END
MS-DOS Editor <F1=Help> Press ALT to activate menus N 00001:001
```

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
LINK : warning L4038: program has no starting address
C:\BIN>debug div.exe
-u
0764:0000 B80600      MOV     AX,0006
0764:0003 BB0200      MOV     BX,0002
0764:0006 F7F3       DIV     BX
0764:0008 F4        HLT
0764:0009 BA3C1C      MOV     DX,1C3C
0764:000C 68        DB      68
0764:000D 014070      ADD     [BX+SI+70],AX
0764:0010 1CEB      SBB     AL,EB
0764:0012 2C04      SUB     AL,04
0764:0014 1C04      SBB     AL,04
0764:0016 1C5D      SBB     AL,5D
0764:0018 9E        SAHF
0764:0019 7001      JO      001C
0764:001B 207B1C    AND     [BP+DI+1C],BH
0764:001E 75D6      JNZ     FFF6
-g 0008
AX=0003 BX=0002 CX=0009 DX=0000 SP=0000 BP=0000 SI=0000 DI=0000
DS=0754 ES=0754 SS=0763 CS=0764 IP=0008 NV UP EI PL NZ NA PO NC
0764:0008 F4      HLT
```

Output:

Result: