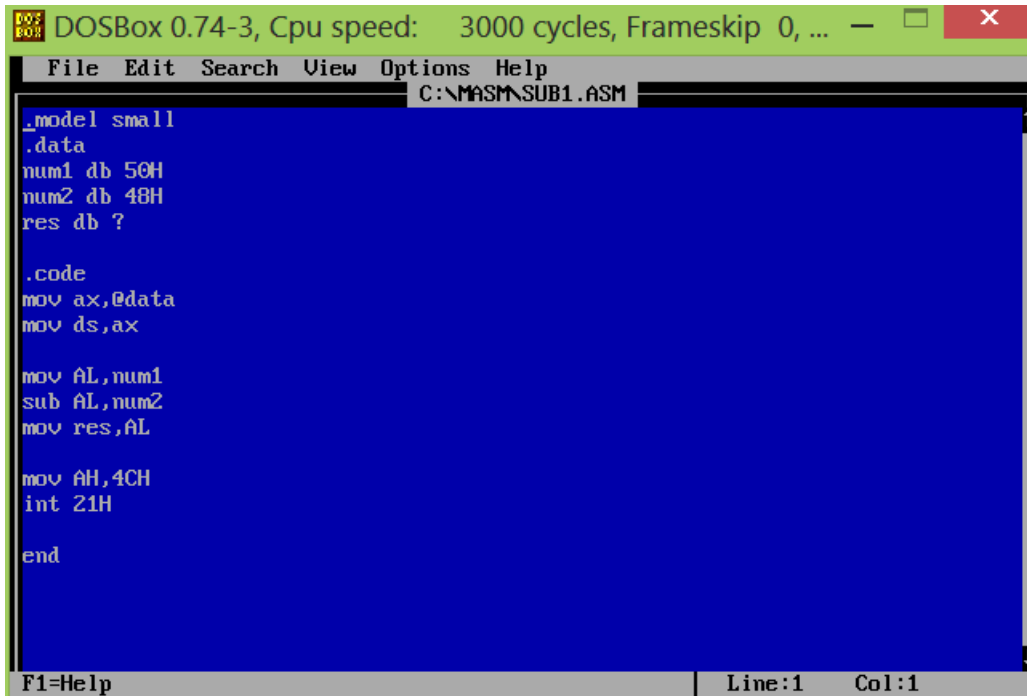
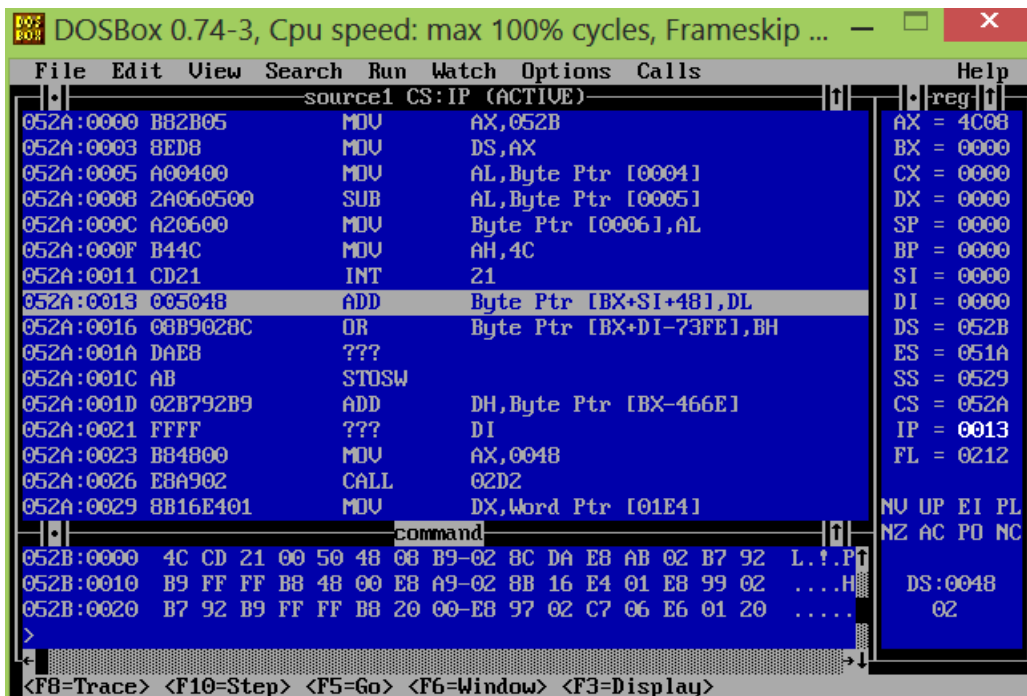


Q1) 8-BIT SUBTRACTION



```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, ...  
File Edit Search View Options Help  
C:\MASM\SUB1.ASM  
_model small  
.data  
num1 db 50H  
num2 db 48H  
res db ?  
  
.code  
mov ax,0data  
mov ds,ax  
  
mov AL,num1  
sub AL,num2  
mov res,AL  
  
mov AH,4CH  
int 21H  
  
end  
F1=Help | Line:1 Col:1
```



```
DOSBox 0.74-3, Cpu speed: max 100% cycles, Frameskip ...  
File Edit View Search Run Watch Options Calls Help  
source1 CS:IP (ACTIVE)  
052A:0000 B82B05 MOV AX,052B AX = 4C0B  
052A:0003 8ED8 MOV DS,AX BX = 0000  
052A:0005 A00400 MOV AL,Byte Ptr [0004] CX = 0000  
052A:0008 2A060500 SUB AL,Byte Ptr [0005] DX = 0000  
052A:000C A20600 MOV Byte Ptr [0006],AL SP = 0000  
052A:000F B44C MOV AH,4C BP = 0000  
052A:0011 CD21 INT 21 SI = 0000  
052A:0013 005048 ADD Byte Ptr [BX+SI+48],DL DI = 0000  
052A:0016 08B9028C OR Byte Ptr [BX+DI-73FE],BH DS = 052B  
052A:001A DAE8 ??? ES = 051A  
052A:001C AB STOSW SS = 0529  
052A:001D 02B792B9 ADD DH,Byte Ptr [BX-466E] CS = 052A  
052A:0021 FFFF ??? DI IP = 0013  
052A:0023 B84800 MOV AX,0048 FL = 0212  
052A:0026 E8A902 CALL 02D2  
052A:0029 8B16E401 MOV DX,Word Ptr [01E4] NV UP EI PL  
NZ AC PO NC  
Command  
052B:0000 4C CD 21 00 50 48 08 B9-02 8C DA E8 AB 02 B7 92 L...P  
052B:0010 B9 FF FF B8 48 00 E8 A9-02 8B 16 E4 01 E8 99 02 ...H  
052B:0020 B7 92 B9 FF FF B8 20 00-E8 97 02 C7 06 E6 01 20 .....  
>  
<F8=Trace> <F10=Step> <F5=Go> <F6=Window> <F3=Display>
```

Q2) 16-BIT SUBTRACTION

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, ...
File Edit Search View Options Help
C:\MASM\SUB1.ASM

.model small
.data
num1 DW 1234H
num2 DW 0213H
res DW ?

.code
mov ax,@data
mov ds,ax

mov AX,num1
sub AX,num2
mov res,AX

mov AH,4CH
int 21H

end

F1=Help | Line:4 Col:14
```

```
DOSBox 0.74-3, Cpu speed: max 100% cycles, Frameskip ...
File Edit View Search Run Watch Options Calls Help

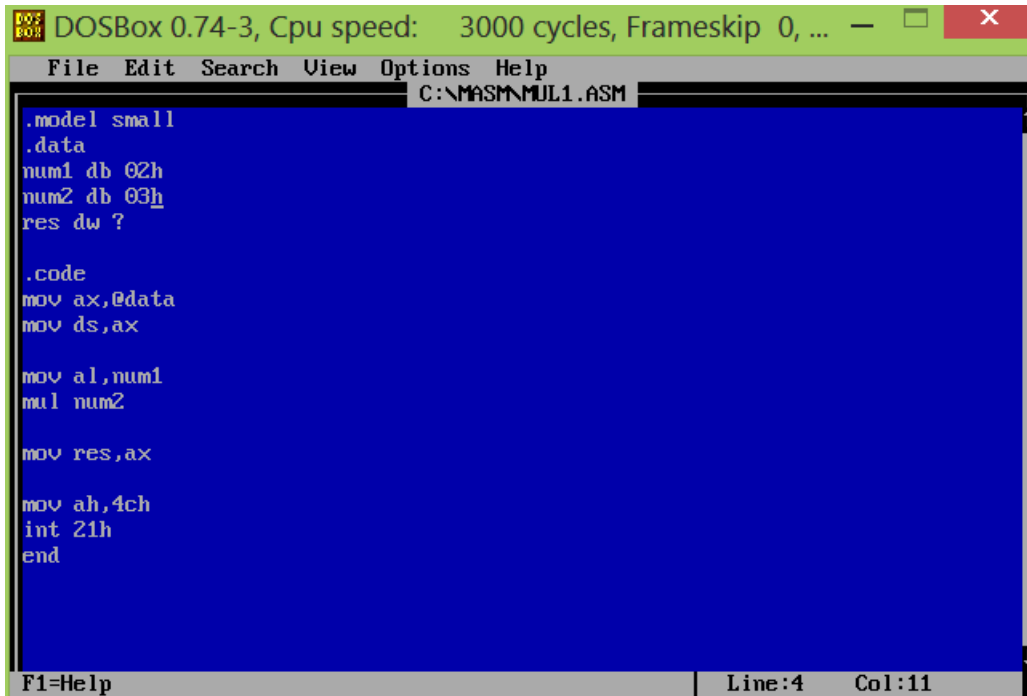
source1 CS:IP (ACTIVE)
052A:0000 B82B05 MOV AX,052B
052A:0003 8ED8 MOV DS,AX
052A:0005 A10400 MOV AX,Word Ptr [0004]
052A:0008 2B060600 SUB AX,Word Ptr [0006]
052A:000C A30800 MOV Word Ptr [0008],AX
052A:000F B44C MOV AH,4C
052A:0011 CD21 INT 21
052A:0013 0034 ADD Byte Ptr [SI],DH
052A:0015 1213 ADC DL,Byte Ptr [BP+DI]
052A:0017 0221 ADD AH,Byte Ptr [BX+DI]
052A:0019 10DA ADC DL,BL
052A:001B E8AB02 CALL 02C9
052A:001E B792 MOV BH,92
052A:0020 B9FFFF MOV CX,FFFF
052A:0023 B84800 MOV AX,0048
052A:0026 E8A902 CALL 02D2

reg
AX = 4C21
BX = 0000
CX = 0000
DX = 0000
SP = 0000
BP = 0000
SI = 0000
DI = 0000
DS = 052B
ES = 051A
SS = 0529
CS = 052A
IP = 0013
FL = 0206

command
052B:0000 4C CD 21 00 34 12 13 02-21 10 DA E8 AB 02 B7 92 L.!..4
052B:0010 B9 FF FF B8 48 00 E8 A9-02 8B 16 E4 01 E8 99 02 ...H
052B:0020 B7 92 B9 FF FF B8 20 00-E8 97 02 C7 06 E6 01 20 .....
>

<F8=Trace> <F10=Step> <F5=Go> <F6=Window> <F3=Display>
```

Q3) 8-BIT MULTIPLICATION



```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, ...
File Edit Search View Options Help
C:\MASM\MUL1.ASM

.model small
.data
num1 db 02h
num2 db 03h
res dw ?

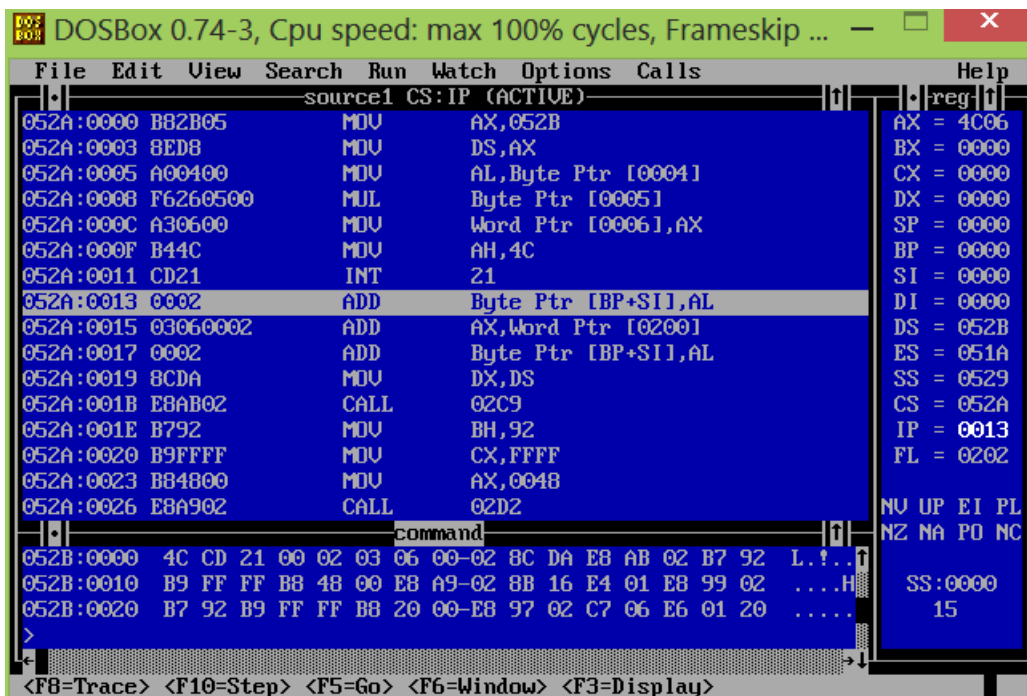
.code
mov ax,0data
mov ds,ax

mov al,num1
mul num2

mov res,ax

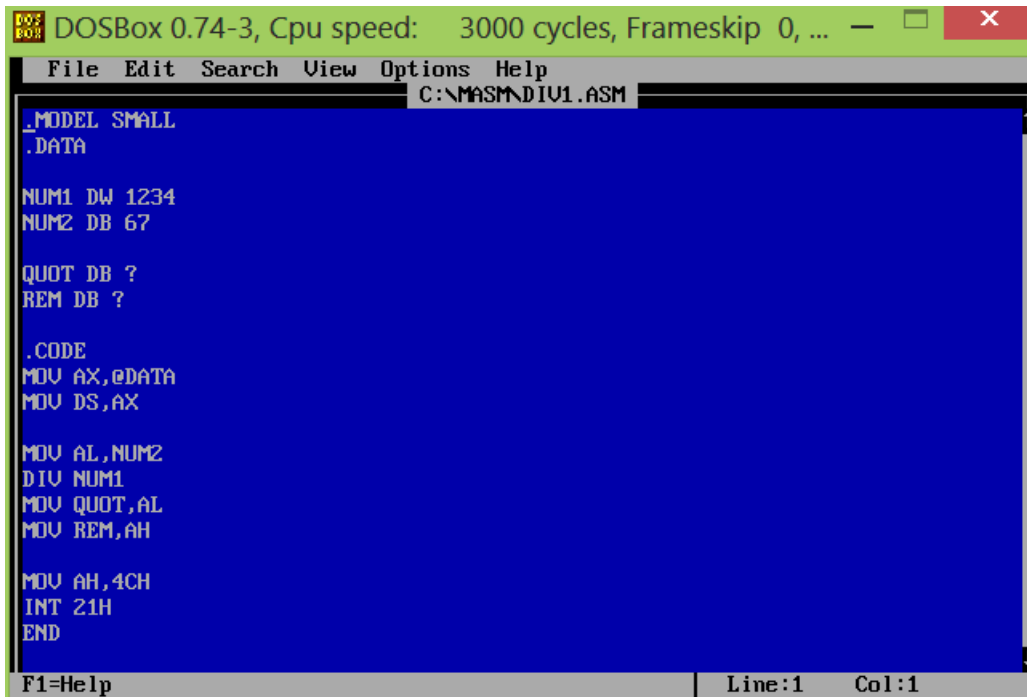
mov ah,4ch
int 21h
end

F1=Help | Line:4 Col:11
```



```
DOSBox 0.74-3, Cpu speed: max 100% cycles, Frameskip ...
File Edit View Search Run Watch Options Calls Help
source1 CS:IP (ACTIVE)
052A:0000 B82B05 MOV AX,052B
052A:0003 8ED8 MOV DS,AX
052A:0005 A00400 MOV AL,Byte Ptr [0004]
052A:0008 F6260500 MUL Byte Ptr [0005]
052A:000C A30600 MOV Word Ptr [0006],AX
052A:000F B44C MOV AH,4C
052A:0011 CD21 INT 21
052A:0013 0002 ADD Byte Ptr [BP+SI],AL
052A:0015 03060002 ADD AX,Word Ptr [0200]
052A:0017 0002 ADD Byte Ptr [BP+SI],AL
052A:0019 8CDA MOV DX,DS
052A:001B E8AB02 CALL 02C9
052A:001E B792 MOV BH,92
052A:0020 B9FFFF MOV CX,FFFF
052A:0023 B84800 MOV AX,0048
052A:0026 E8A902 CALL 02D2
AX = 4C06
BX = 0000
CX = 0000
DX = 0000
SP = 0000
BP = 0000
SI = 0000
DI = 0000
DS = 052B
ES = 051A
SS = 0529
CS = 052A
IP = 0013
FL = 0202
NV UP EI PL
NZ NA PO NC
052B:0000 4C CD 21 00 02 03 06 00-02 8C DA E8 AB 02 B7 92 L?...
052B:0010 B9 FF FF B8 48 00 E8 A9-02 8B 16 E4 01 E8 99 02 ....H
052B:0020 B7 92 B9 FF FF B8 20 00-E8 97 02 C7 06 E6 01 20 .....
SS:0000
15
<F8=Trace> <F10=Step> <F5=Go> <F6=Window> <F3=Display>
```

Q4) 16/8-BIT DIVISION



```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, ...
File Edit Search View Options Help
C:\MASM\DIV1.ASM

.MODEL SMALL
.DATA

NUM1 DW 1234
NUM2 DB 67

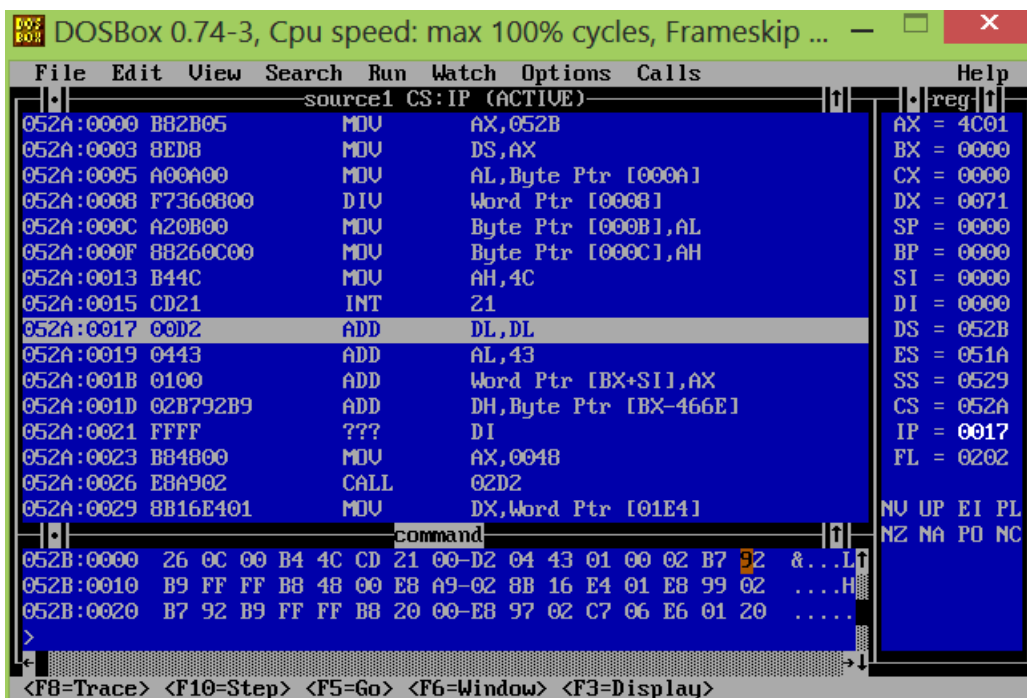
QUOT DB ?
REM DB ?

.CODE
MOV AX, @DATA
MOV DS, AX

MOV AL, NUM2
DIV NUM1
MOV QUOT, AL
MOV REM, AH

MOV AH, 4CH
INT 21H
END

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



```
DOSBox 0.74-3, Cpu speed: max 100% cycles, Frameskip ...
File Edit View Search Run Watch Options Calls Help

source1 CS:IP (ACTIVE)
052A:0000 B82B05 MOV AX,052B AX = 4C01
052A:0003 8ED8 MOV DS,AX BX = 0000
052A:0005 A00A00 MOV AL,Byte Ptr [000A] CX = 0000
052A:0008 F7360800 DIV Word Ptr [0008] DX = 0071
052A:000C A20B00 MOV Byte Ptr [000B],AL SP = 0000
052A:000F 88260C00 MOV Byte Ptr [000C],AH BP = 0000
052A:0013 B44C MOV AH,4C SI = 0000
052A:0015 CD21 INT 21 DI = 0000
052A:0017 00D2 ADD DL,DL DS = 052B
052A:0019 0443 ADD AL,43 ES = 051A
052A:001B 0100 ADD Word Ptr [BX+SI],AX SS = 0529
052A:001D 02B792B9 ADD DH,Byte Ptr [BX-466E] CS = 052A
052A:0021 FFFF ??? DI IP = 0017
052A:0023 B84800 MOV AX,0048 FL = 0202
052A:0026 E8A902 CALL 02D2
052A:0029 8B16E401 MOV DX,Word Ptr [01E4]

command
052B:0000 26 0C 00 B4 4C CD 21 00-D2 04 43 01 00 02 B7 32 &...L
052B:0010 B9 FF FF B8 48 00 E8 A9-02 8B 16 E4 01 E8 99 02 ...H
052B:0020 B7 92 B9 FF FF B8 20 00-E8 97 02 C7 06 E6 01 20 .....

>
<F8=Trace> <F10=Step> <F5=Go> <F6=Window> <F3=Display>
```