

**Task1**

.model small

.stack 100h

.data

var dw 12

var1 dw 12

.code

main proc

mov ax, @data

mov ds, ax

mov dx, 0

mov ax, var

mov bx, var1

mul bx

add ax, 48

mov ah, 4ch

int 21h

main endp

end main

DOSBox 0.74, Cpu speed: max 100% cycles, Fra...

File Edit Search Run Data Options Calls Windows Help

Locals

[F3] source1 CS:IP

```

05E6:0000 BFF705 MOV     AX,05E7
05E6:0003 8ED8 MOV     DS,AX
05E6:0005 B80000 MOV     DX,0000
05E6:0008 A10000 MOV     AX,WORD PTR [0000]
05E6:000B 3B1E0A00 MOV     BX,WORD PTR [000A]
05E6:000F F7E3 MUL     BX
05E6:0011 03C030 ADD     AX,30
05E6:0014 B44C MOV     AH,4C
05E6:0016 CD21 INT     21
05E6:0018 0C00 OR      AL,00
05E6:001C 02894404 ADD     CL,BYTE PTR [BX+DI+0444]
05E6:0020 99440C MOV     WORD PTR [SI+0C],AX
05E6:0023 99440C MOV     WORD PTR [SI+0C],AX
05E6:0026 99440E MOV     WORD PTR [SI+0E],AX
05E6:0029 B400 MOV     AH,00
05E6:002B FF1EA01 CALL    DWORD PTR [01EA]
05E6:002F F8 CLC
05E6:0030 EB01 JMP     0033
05E6:0032 F9 STC
05E6:0033 5F POP     SI

```

Registers:

AX	4CC0
BX	000C
CX	0000
DX	0000
SP	0100
BP	0000
SI	0000
DI	0000
DS	05E7
ES	05D6
SS	05E8
CS	05E6
IP	0010
FL	0206

NU UP FI PL  
NZ NA PE NC

Memory:

```

05D6:0000 CD 20 FF 9F 00 EA FF FF AD DE 96 02 3F = f.0 i 0?
05D6:000D 04 97 03 3F 04 DD 0B 3F 04 BB 05 01 01 +u?+i d?+n?+0
05D6:0010 61 memory2 h DS:0
05D6:0011 CD 20 FF 9F 00 EA FF FF AD DE 96 02 3F = f.0 i 0?
05D6:0016 04 97 03 3F 04 DD 0B 3F 04 BB 05 01 01 +u?+i d?+n?+0

```

Command:

```

> CU0101 Warning: no CodeView information for 'C:\task.exe'
> Process 0x05D6 terminated normally (65472)
>

```

<F8=Trace> <F10=Step> <F5=Go> <F3=S1 Fmt> <Sh+F3=M2 Fmt> DEC

## Task2

.MODEL SMALL

.STACK 100H

.DATA

VAR1 DW 11

VAR2 DW 4

Q DW ?

R DW ?

.CODE

main proc

MOV AX,@DATA

MOV DS,AX

mov dx,0

MOV AX,VAR1

MOV BX,VAR2

DIV BX

MOV Q,AX ;ax is quotient

MOV R,DX ;dx is remainder

MOV DX,Q

ADD DX,48

MOV AH,02

INT 21H

MOV DX,13

MOV AH,02

INT 21H

MOV DX,10

MOV AH,02

INT 21H

MOV DX,R

ADD DX,48

MOV AH,02

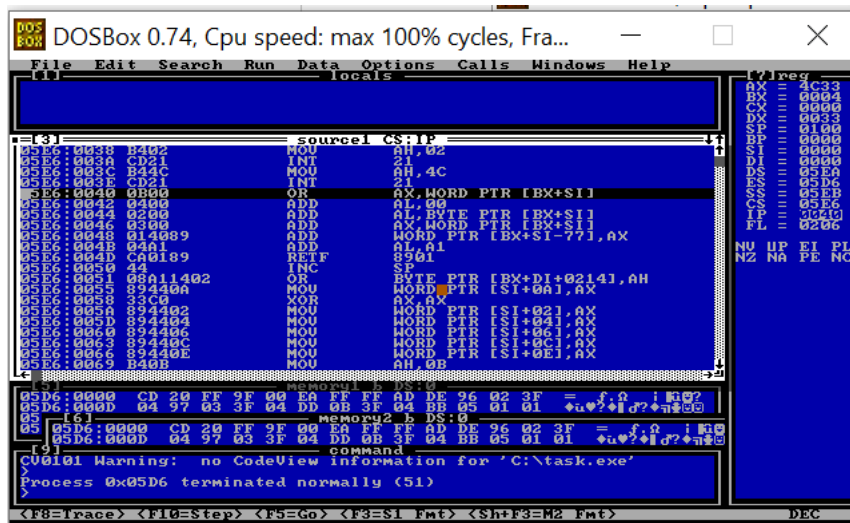
INT 21H

mov AH,4ch

int 21h

main endp

end main



DOSBox 0.74, Cpu speed: max 100% cycles, Fra...

File Edit Search Run Data Options Calls Windows Help

Locals

source1 CS:IP

```
05E6:0038 B402 MOV AH,02
05E6:003A CD21 INT 21
05E6:003C B44C MOV AH,4C
05E6:003E CD21 INT 21
05E6:0040 0800 OR AX,WORD PTR [BX+SI]
05E6:0042 0400 ADD AL,BYTE PTR [BX+SI]
05E6:0044 0300 ADD AX,WORD PTR [BX+SI]
05E6:0046 014089 ADD WORD PTR [BX+SI-77],AX
05E6:0048 0401 ADD AL,AL
05E6:004D CA0189 RETF 8901
05E6:0050 44 INC SP
05E6:0051 08A11402 OR BYTE PTR [BX+DI+02141],AH
05E6:0053 89440A MOV WORD PTR [SI+0A],AX
05E6:0055 33C8 XOR AX,AX
05E6:0058 894402 MOV WORD PTR [SI+02],AX
05E6:005D 894404 MOV WORD PTR [SI+04],AX
05E6:0060 894406 MOV WORD PTR [SI+06],AX
05E6:0063 894408 MOV WORD PTR [SI+08],AX
05E6:0066 89440E MOV WORD PTR [SI+0E],AX
05E6:0069 840B MOV AH,0B
```

reg

AX = 4C33  
BX = 0004  
CX = 0000  
DX = 0033  
SP = 0100  
SI = 0000  
DI = 0000  
DS = 055A  
ES = 055A  
SS = 05EB  
CS = 055E  
IP = 0240  
FL = 0206

NU UP EI PL  
NZ NA PE NC

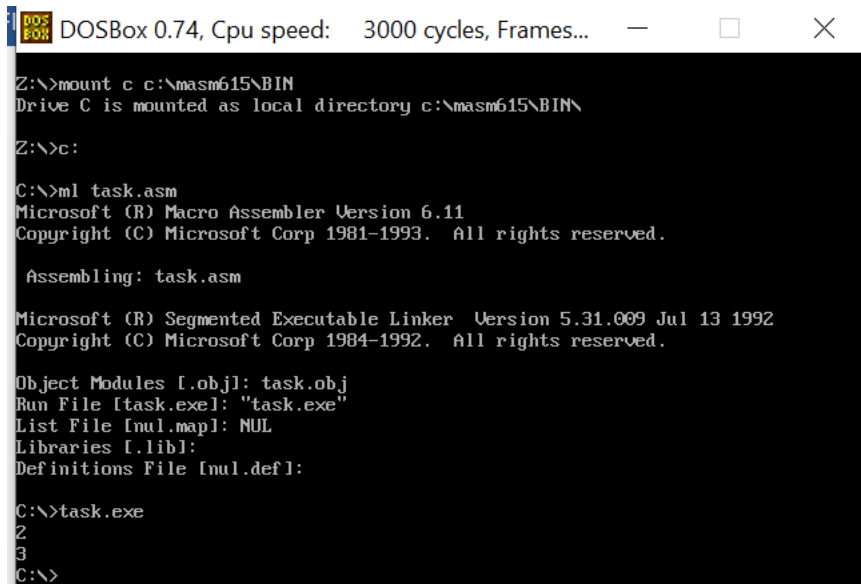
memory1 b FS:0  
05D6:0000 CD 20 FF 9F 04 DD 0B 3F 04 DE 96 02 3F = f a i n 02  
05D6:000D 04 97 03 3F 04 DD 0B 3F 04 DE 96 01 01 = \*u?+i d?+n 00

memory2 b DS:0  
05D6:0000 CD 20 FF 9F 04 DD 0B 3F 04 DE 96 02 3F = f a i n 02  
05D6:000D 04 97 03 3F 04 DD 0B 3F 04 DE 96 01 01 = \*u?+i d?+n 00

command

C:\001 Warning: no CodeView information for 'C:\task.exe'  
> Process 0x05D6 terminated normally (51)  
>

<F8=Trace> <F10=Step> <F5=Go> <F3=S1 Fmt> <Sh+F3=M2 Fmt> DEC



DOSBox 0.74, Cpu speed: 3000 cycles, Frames...

```
Z:\>mount c c:\masm615\BIN
Drive C is mounted as local directory c:\masm615\BIN\

Z:\>c:

C:\>ml task.asm
Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: task.asm

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

Object Modules [.obj]: task.obj
Run File [task.exe]: "task.exe"
List File [nul.map]: NUL
Libraries [.lib]:
Definitions File [nul.def]:

C:\>task.exe
2
3
C:\>
```

## Task3

.model small

.stack 100h

.data

.CODE

main proc

mov AX,@DATA

mov DS,AX

mov dx,0

mov ah, 01

int 21h

sub al, 48

mov bl, al

mov ah,01

int 21h

sub al,48

mov cl, al

cmp cl,bl

je l1

mov dl, 'N'

mov ah, 02

int 21h

jne exit

l1:

mov dl, 'Y'

mov ah, 02

int 21h

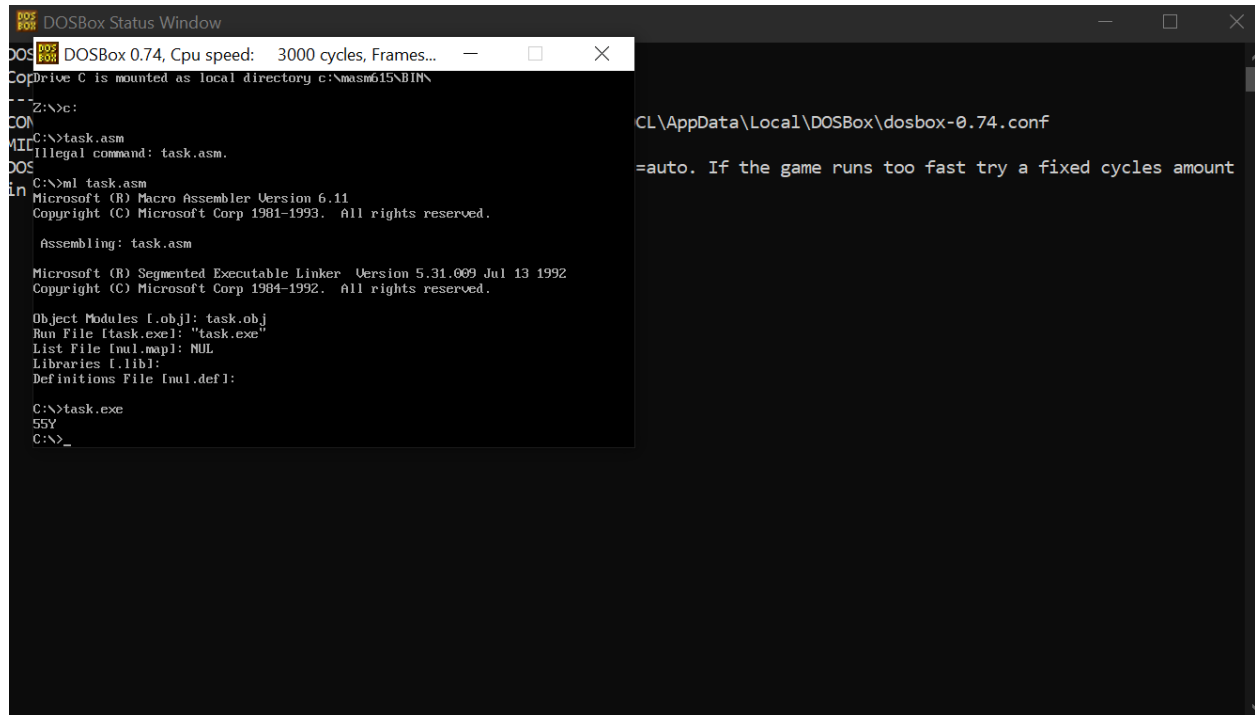
exit:

mov ah, 4ch

int 21h

main endp

end main



The image shows a DOSBox Status Window and a command prompt. The status window displays the DOSBox version (0.74), CPU speed (3000 cycles), and the path to the configuration file (CL\AppData\Local\DOSBox\dosbox-0.74.conf). The command prompt shows the execution of the task.asm file, which is assembled using Microsoft Macro Assembler Version 6.11. The linker (Microsoft Segmented Executable Linker Version 5.31.009) is then used to create the task.exe file. The command prompt also shows the execution of task.exe, which outputs 55Y.

```
DOSBox Status Window
DOSBox 0.74, Cpu speed: 3000 cycles, Frames...
Drive C is mounted as local directory c:\msm615\BINN
Z:\>c:
C:\>task.asm
Illegal command: task.asm.
C:\>ml task.asm
Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.
Assembling: task.asm
Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.
Object Modules [obj]: task.obj
Run File [task.exe]: "task.exe"
List File [nul.map]: NUL
Libraries [lib]:
Definitions File [nul.def]:
C:\>task.exe
55Y
C:\>_
```