

### **TASK 1**

```
.model small  
.stack 100h  
.data  
var1 db 2  
var2 db 3  
.code  
main proc  
mov ax, @data  
mov ds,ax  
sub var1,48  
sub var2,48  
mov ch,var1  
mov cl,var2  
add ch,cl  
add ch,48  
mov dl,ch  
mov ah,02h  
int 21h  
mov ah,4ch  
int 21h  
main endp  
end main
```

### **Task2**

```
.model small  
.stack 100h  
.data  
var1 db ?
```

```
var2 db ?  
  
.code  
  
main proc  
mov ax, @data  
mov ds,ax  
mov ah,01h  
  
int 21h  
  
mov var1,al  
mov ah,01h  
  
int 21h  
  
mov var2,al  
sub var1,48  
sub var2,48  
mov ch,var1  
mov cl,var2  
add ch, cl  
add ch,48  
mov dl,ch  
mov ah,02h  
  
int 21h  
mov ah,4ch  
  
int 21h  
  
main endp  
  
end main
```

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frames...
Drive C is mounted as local directory c:\msasm615\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
3
C:\>task.exe
325
C:\>_
```

### Task3

.model small

.stack 100h

.data

var1 db ?

var2 db ?

.code

main proc

mov ax, @data

mov ds,ax

mov ah,01h

int 21h

mov var1,al

mov ah,01h

int 21h

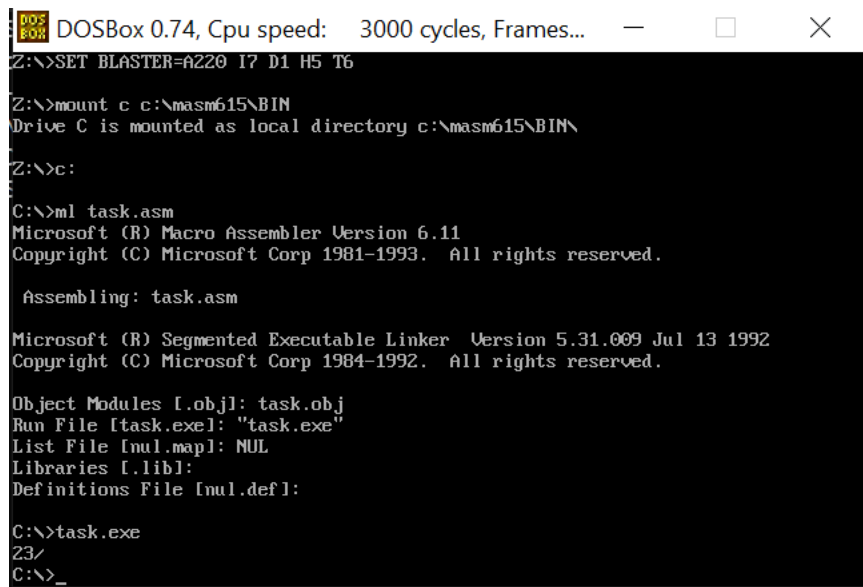
mov var2,al

sub var1,48

sub var2,48

mov ch,var1

```
mov cl,var2
sub ch, cl
add ch,48
mov dl,ch
mov ah,02h
int 21h
mov ah,4ch
int 21h
main endp
end main
```



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frames...
Z:\>SET BLASTER=A220 I7 D1 H5 T6
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
23/
C:\>_
```

#### Task4

```
.model small
.stack 100h
.data
var1 dw 4
var2 db 2
.code
main proc
mov ax, @data
```

```

mov ds,ax

;sub var1,48

;sub var2,48

mov ax, var1

mov bl, var2

mul bl

add al,48

mov dl,al

mov ah,02h

int 21h

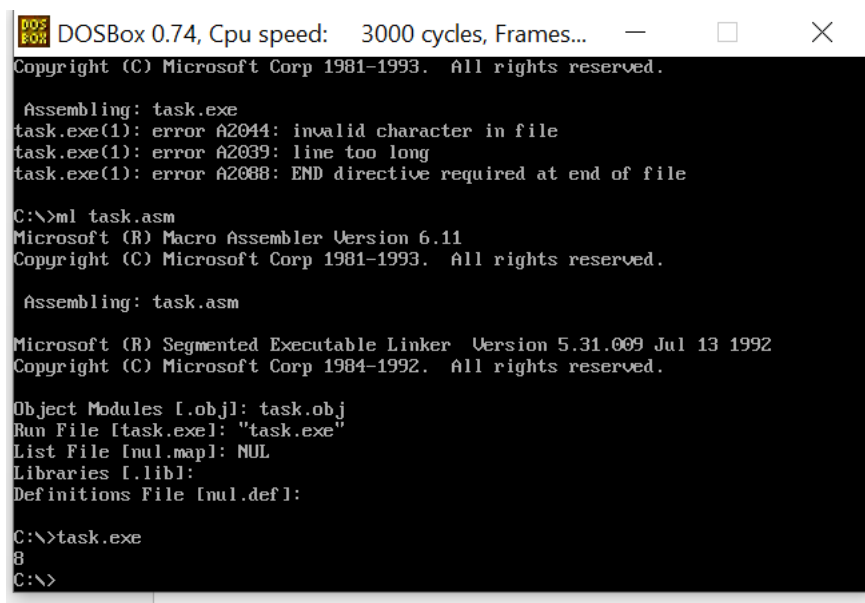
mov ah,4ch

int 21h

main endp

end main

```



The screenshot shows a DOSBox window titled "DOSBox 0.74, Cpu speed: 3000 cycles, Frames...". The window contains a black terminal area with white text. The text shows the assembly of 'task.exe' with several errors: 'error A2044: invalid character in file', 'error A2039: line too long', and 'error A2088: END directive required at end of file'. It then shows the execution of 'ml task.asm' (Microsoft Macro Assembler Version 6.11) and 'link task.obj' (Microsoft Segmented Executable Linker Version 5.31.009 Jul 13 1992). The linker output shows 'Object Modules [obj]: task.obj', 'Run File [task.exe]: "task.exe"', 'List File [nul.map]: NUL', 'Libraries [lib1]:', and 'Definitions File [nul.def]:'. The prompt 'C:\>task.exe' is shown, followed by a blank line and another prompt 'C:\>'.

```

DOSBox 0.74, Cpu speed: 3000 cycles, Frames...
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: task.exe
task.exe(1): error A2044: invalid character in file
task.exe(1): error A2039: line too long
task.exe(1): error A2088: END directive required at end of file

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
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Object Modules [obj]: task.obj
Run File [task.exe]: "task.exe"
List File [nul.map]: NUL
Libraries [lib1]:
Definitions File [nul.def]:

C:\>task.exe
8
C:\>

```

## Task5

```

.model small

.stack 100h

.data

```

```
var1 dw 9
var2 db 3
.code
main proc
mov ax, @data
mov ds,ax
;sub var1,48
;sub var2,48
mov ax, var1
mov bl, var2
div bl
add al,48
mov dl,al
mov ah,02h
int 21h
add ah,48
mov ch,ah
mov dl,ch
mov ah,02h
int 21h
mov ah,4ch
int 21h
main endp
end main
```

```
DOSBox 0.74, Cpu speed: 3000 cycles, Frames...
Run File [task.exe]: "task.exe"
List File [nul.map]: NUL
Libraries [.lib]:
Definitions File [nul.def]:
C:\>task.exe
38
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
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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
32
C:\>_
```

## Task6

.model small

.stack 100h

.data

var1 db ?

var2 db ?

.code

main proc

mov ah,01h

int 21h

sub al,48

mov var1,al

mov ah,01h

int 21h

sub al,48

mov var2,al

mov cl,var1

mov bh,var2

```
add cl,bh
mov ax,00
mov al,cl
mov ah,00
mov bl,10
div bl
mov ch,al
mov cl,ah
add ch,48
add cl,48
mov dl,ch
mov ah,02h
int 21h
mov dl,cl
mov ah,02h
int 21h
main endp
end main
```



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frames...
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
32
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
2305_
```