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20i-1884

Lab 08

Section B

Question 1.

.MODEL SMALL

.STACK 100H

.DATA

arr1 DB 66, 67, 68,
69, 70, 71,
72, 73, 74,
75, 76, 77,
78, 79, 80

.CODE

main proc

mov ax, @DATA

mov ds, ax

mov BX, offset arr1

ADD BX, 5 * 1

Mov si, 2

mov al, [bx+si]

mov dl, al

mov ah,02

int 21h

mov BX, offset arr1

add bx, 5* 2

mov si, 3

```

mov al, [BX+SI]

mov dl, al

mov ah,02

int 21h

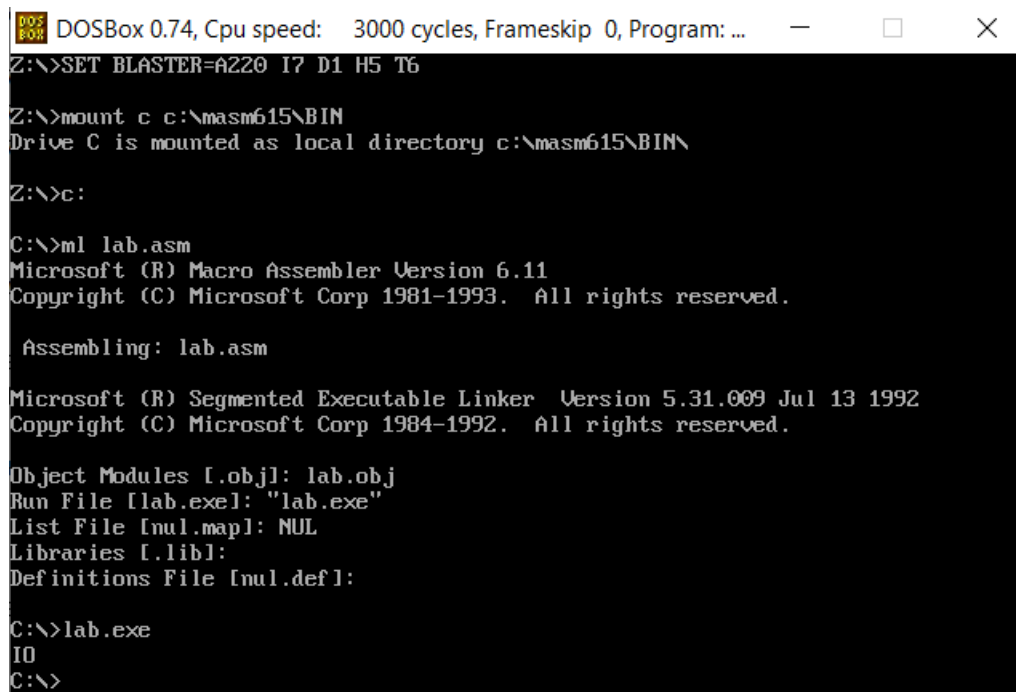
mov AH, 4CH

int 21h

main endp

end main

```



DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: ...

```

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

Assembling: lab.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]: lab.obj
Run File [lab.exe]: "lab.exe"
List File [nul.map]: NUL
Libraries [.lib]:
Definitions File [nul.def]:

C:\>lab.exe
IO
C:\>

```

Question 2.

```

.model small

.stack 100h

.data

arr db 0,0,0,0,0,0,0,0,0

.code

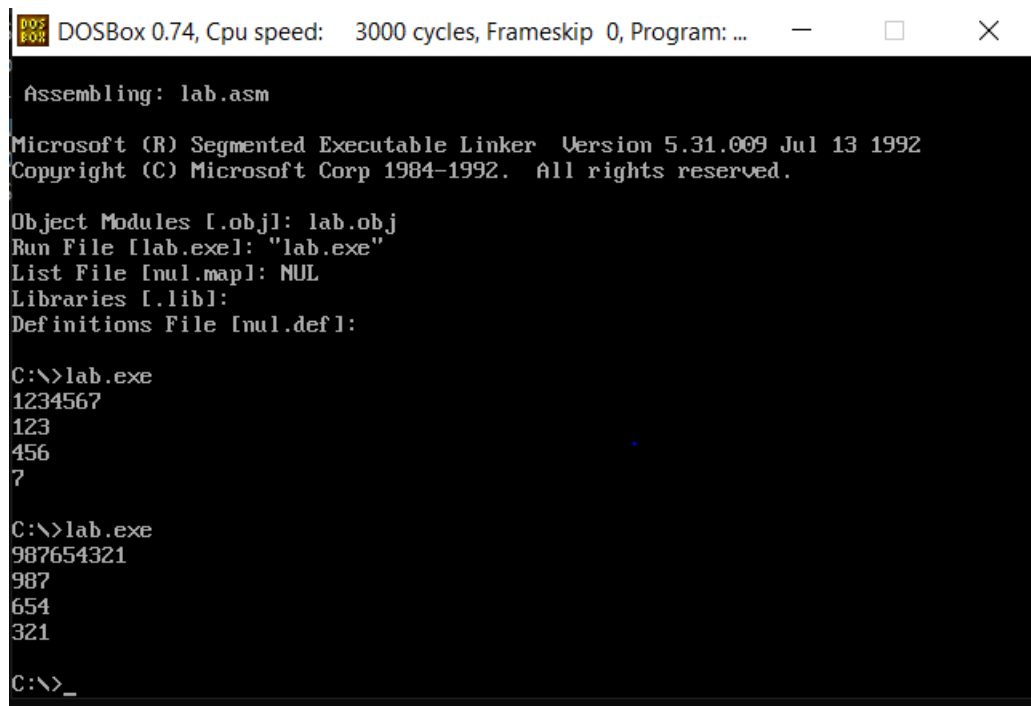
main proc

mov ax,@data

```

```
mov ds,ax
mov si,offset arr
mov cx,9
jmp L1
L1:
mov ah,01h
int 21h
sub al,48
mov [si],al
inc si
loop L1
mov cx,4
mov bx,offset arr
L2:
mov dl,13
mov ah,02h
int 21h
mov dl,10
mov ah,02h
int 21h
mov si,3
dec cx
jnz L3
jmp EXIT
L3:
mov al,[bx]
mov dl,al
add dl,48
mov ah,02h
```

```
int 21h
inc bx
dec si
jnz L3
jmp L2
EXIT:
mov ah, 4ch
int 21h
main endp
end main
```



```
DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: ...
Assembling: lab.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]: lab.obj
Run File [lab.exe]: "lab.exe"
List File [nul.map]: NUL
Libraries [lib]:
Definitions File [nul.def]:
C:\>lab.exe
1234567
123
456
7
C:\>lab.exe
987654321
987
654
321
C:\>_
```

Question 3.

```
.model small
.stack 100h
.data
arr1 db 0,0,0,0,0,0,0,0
arr2 db 0,0,0,0,0,0,0,0
```

```
result db 0,0,0,0,0,0,0,0,0
```

```
.code
```

```
main proc
```

```
mov ax,@data
```

```
mov ds,ax
```

```
mov si,offset arr1
```

```
mov cx,9
```

```
jmp L1
```

```
L1:
```

```
mov ah,01h
```

```
int 21h
```

```
sub al,48
```

```
mov [si],al
```

```
inc si
```

```
loop L1
```

```
mov cx,9
```

```
mov si,offset arr2
```

```
L2:
```

```
mov ah,01h
```

```
int 21h
```

```
sub al,48
```

```
mov [si],al
```

```
inc si
```

```
loop L2
```

```
mov cx,9
```

```
mov si,offset arr1
```

```
mov di,offset arr2
```

```
mov bx,offset result
```

```
Sum:
```

```
mov ah,[si]
mov dh,[di]
add ah,dh
mov [bx],ah
inc si
inc di
inc bx
loop Sum
mov cx,4
mov bx,offset result
L3:
mov dl,13
mov ah,02h
int 21h
mov dl,10
mov ah,02h
int 21h
mov si,3
dec cx
jnz L4
jmp EXIT
L4:
mov al,[bx]
mov dl,al
add dl,48
mov ah,02h
int 21h
inc bx
dec si
```

jnz L4

jmp L3

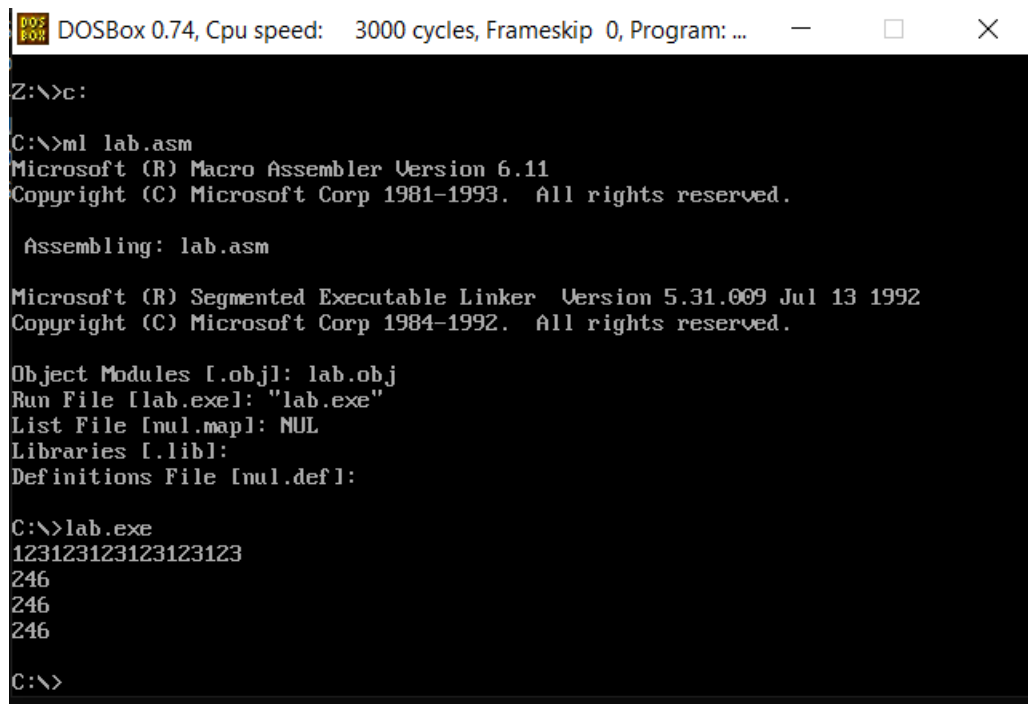
EXIT:

mov ah, 4ch

int 21h

main endp

end main



DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: ...

```
Z:\>c:
C:\>ml lab.asm
Microsoft (R) Macro Assembler Version 6.11
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Assembling: lab.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]: lab.obj
Run File [lab.exe]: "lab.exe"
List File [nul.map]: NUL
Libraries [.lib]:
Definitions File [nul.def]:

C:\>lab.exe
123123123123123123
246
246
246

C:\>
```

Question 4.

.model small

.stack 100h

.data

arr dw 4 dup(0)

.code

mov ax, @data

mov ds, ax

mov cx, 4

mov si, offset arr

Input1:

mov ah, 01h

int 21h

mov [si], ax

inc si

loop Input1

mov dx, 10

mov ah, 02h

int 21h

mov dx, 13

mov ah, 02h

int 21h

mov si, offset arr

;transpose

inc si

mov dx, [si]

mov ax, [si+1]

mov bx, [si+2]

mov [si], ax

mov [si+1],dx

mov [si+2],bx

mov cx, 2

mov bx, 2

mov si, offset arr

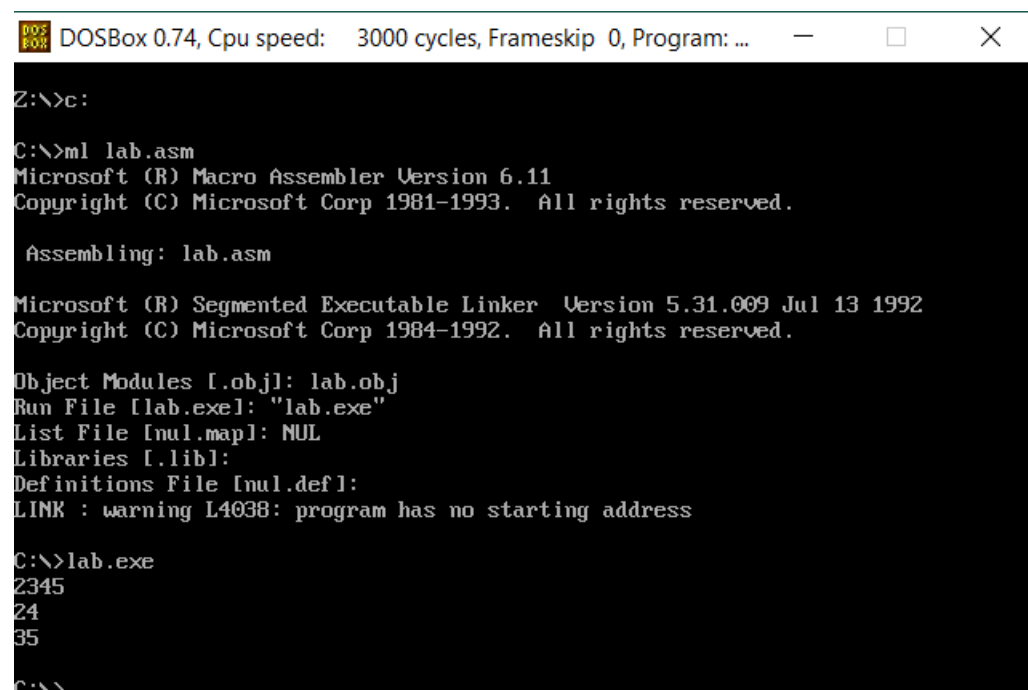
;output

I3:

push cx

mov cx, bx


```
l4:
mov dx, [si]
mov ah, 02h
int 21h
inc si
loop l4
mov dx, 10
mov ah, 02h
int 21h
mov dx, 13
mov ah, 02h
int 21h
pop cx
loop l3
mov ah, 4ch
int 21h
end
```



DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: ...

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

Assembling: lab.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]: lab.obj
Run File [lab.exe]: "lab.exe"
List File [nul.map]: NUL
Libraries [.lib]:
Definitions File [nul.def]:
LINK : warning L4038: program has no starting address

C:\>lab.exe
2345
24
35
C:\>
```

