

CSI2006 Micro-Processor and Interfacing Techniques

Assignment-2

Aim 1 :

To write an assembly language programming using 8086 instruction set to find the largest value from an array of given numbers.

Aim 2 :

To write an assembly language programming using 8086 instruction set to find the smallest value from an array of given numbers.

Algorithm :

Input - number of array elements (count)

Enter the elements to be stored in array

Process - Compare the numbers

Conclusion – By the above process, we can find the large/small value.

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1)Program → Find the Largest element in an array

Code

```
max.asm min.asm X
Users > prashanthsingaravelan > DosBox > 8086 > min.asm
1  .model small
2  .stack 64
3  .data
4  .code
5  start: Mov ax, @data
6          Mov ds, ax
7          Mov si, 3000h
8          Mov di, 3500h
9          Mov cl, [si]
10         mov Ch, 00h
11         Inc si
12         Mov al, [si]
13         dec cl
14         inc si
15  next: Cmp al, [si]
16         Jc fit
17         Mov al, [si]
18  fit:  Inc si
19         Loop next
20         Mov [di], al
21         hlt
22         end
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT
File Edit Search View Options Help
C:\MIN.ASM
.model small
.stack 64
.data
.code
start: Mov ax, @data
      Mov ds, ax
      Mov si, 3000h
      Mov di, 3500h
      Mov cl, [si]
      mov Ch, 00h
      Inc si
      Mov al, [si]
      dec cl
      inc si
next: Cmp al, [si]
      Jc fit
      Mov al, [si]
fit:  Inc si
      Loop next
      Mov [di], al
      hlt
      end
Commands for manipulating files
```

Debug Screen

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

C:\>masm min.asm
Microsoft (R) Macro Assembler Version 5.00
Copyright (C) Microsoft Corp 1981-1985, 1987. All rights reserved.

Object filename [min.OBJ]:
Source listing [NUL.LST]:
Cross-reference [NUL.CRF]:

51682 + 464862 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\>link min.obj

Microsoft (R) Overlay Linker Version 3.60
Copyright (C) Microsoft Corp 1983-1987. All rights reserved.

Run File [MIN.EXE]:
List File [NUL.MAP]:
Libraries [.LIB]:
```

Debugging the Code

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

C:\>debug min.exe
-t
AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=0000 DI=0000
DS=075A ES=075A SS=076D CS=076A IP=0003 NU UP EI PL NZ NA PO NC
076A:0003 8ED8 MDU DS,AX
-t
AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=0000 DI=0000
DS=076C ES=075A SS=076D CS=076A IP=0005 NU UP EI PL NZ NA PO NC
076A:0005 BE0030 MDU SI,3000
-t
AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=3000 DI=0000
DS=076C ES=075A SS=076D CS=076A IP=0008 NU UP EI PL NZ NA PO NC
076A:0008 BF0035 MDU DI,3500
-t
AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000B NU UP EI PL NZ NA PO NC
076A:000B 8A0C MDU CL,[SI] DS:3000=04
-
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
DS=076C ES=075A SS=076D CS=076A IP=000B NU UP EI PL NZ NA PO NC
076A:000B BF0035 MDU DI,3500
-t

AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000B NU UP EI PL NZ NA PO NC
076A:000B 8A0C MDU CL,[SI] DS:3000=04
-d ds:3000
076C:3000 04 06 02 04 08 1E 17 C4-5E F8 26 FF 77 06 E8 15 .....^.&.w...
076C:3010 FF 83 C4 06 C4 5E F8 26-89 47 06 8B 36 22 21 D1 .....^.&.G..6"!..
076C:3020 E6 8B 1E 38 21 C7 00 00-00 8B 1E 08 27 C7 00 00 ...8!.....'...
076C:3030 00 8B 1E 22 21 D1 E3 D1-E3 8B 3E EC 26 2B C0 89 ..."!.....>.&+..
076C:3040 41 02 89 01 8B 1E 22 21-8B 3E FE 26 C6 01 00 EB A....."!...>.&....
076C:3050 45 90 8B 1E 22 21 D1 E3-D1 E3 8B 3E EC 26 A1 3A E....."!.....>.&.:
076C:3060 21 8B 16 3C 21 89 01 89-51 02 C4 5E FC 26 8A 47 !...<!...Q...^.&.G
076C:3070 05 8B 1E 22 21 8B 3E FE-26 88 01 8B F3 D1 E6 8B ..."!...>.&.....
-e ds:3000
076C:3000 04.4 06.6 02.2 04.4 08.8

-t

AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000D NU UP EI PL NZ NA PO NC
076A:000D B500 MDU CH,00
-
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000D NU UP EI PL NZ NA PO NC
076A:000D B500 MDU CH,00
-t

AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000F NU UP EI PL NZ NA PO NC
076A:000F 46 INC SI
-t

AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3001 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0010 NU UP EI PL NZ NA PO NC
076A:0010 8A04 MDU AL,[SI] DS:3001=06
-t

AX=0706 BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3001 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0012 NU UP EI PL NZ NA PO NC
076A:0012 FEC9 DEC CL
-t

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3001 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0014 NU UP EI PL NZ NA PE NC
076A:0014 46 INC SI
-
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3001 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0014 NU UP EI PL NZ NA PE NC
076A:0014 46          INC     SI
-t

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3002 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0015 NU UP EI PL NZ NA PO NC
076A:0015 3A04       CMP     AL,[SI]          DS:3002=02
-t

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3002 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0017 NU UP EI PL NZ NA PO NC
076A:0017 7202       JB      001B
-t

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3002 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0019 NU UP EI PL NZ NA PO NC
076A:0019 8A04       MOV     AL,[SI]          DS:3002=02
-t

AX=0702 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3002 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001B NU UP EI PL NZ NA PO NC
076A:001B 46          INC     SI
-
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

AX=0702 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001C NU UP EI PL NZ NA PE NC
076A:001C E2F7       LOOP    0015
-t

AX=0702 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0015 NU UP EI PL NZ NA PE NC
076A:0015 3A04       CMP     AL,[SI]          DS:3003=04
-t

AX=0702 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0017 NU UP EI NG NZ AC PO CY
076A:0017 7202       JB      001B
-t

AX=0702 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001B NU UP EI NG NZ AC PO CY
076A:001B 46          INC     SI
-t

AX=0702 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001C NU UP EI PL NZ NA PO CY
076A:001C E2F7       LOOP    0015
-
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

AX=0702 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0015  NU UP EI PL NZ NA PO CY
076A:0015 3A04          CMP     AL,[SI]          DS:3004=08
-t

AX=0702 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0017  NU UP EI NG NZ AC PE CY
076A:0017 7202          JB      001B
-t

AX=0702 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001B  NU UP EI NG NZ AC PE CY
076A:001B 46           INC     SI
-t

AX=0702 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001C  NU UP EI PL NZ NA PE CY
076A:001C E2F7          LOOP    0015
-t

AX=0702 BX=0000 CX=0000 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001E  NU UP EI PL NZ NA PE CY
076A:001E 8805          MOV     DI,AL          DS:3500=74
-
```

Output

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
-t
AX=0702 BX=0000 CX=0000 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0020  NU UP EI PL NZ NA PE CY
076A:0020 F4           HLT
-d ds:3500
076C:3500 02 03 E8 5B 97 80 3E 31-22 00 75 03 E9 1B 01 5E  ...[...>1".u....^
076C:3510 8B E5 5D C3 E8 C9 0C A3-26 22 05 03 00 2B D2 01  ..1.....&"...+..
076C:3520 06 B6 25 11 16 B8 25 A1-10 19 24 FE 3D 9C 00 75  ..%...%...$.=..u
076C:3530 05 E8 F6 95 EB 3D 83 3E-AE 07 00 74 03 E8 38 FD  ....=>...t..8.
076C:3540 A1 10 19 24 FE 3D 98 00-74 26 76 03 E9 99 00 3D  ...$.=..t&v....=
076C:3550 80 00 74 2C 3D 82 00 74-27 3D 8A 00 74 66 3D 8C  ..t,..t'=.tf=.
076C:3560 00 74 29 3D 94 00 74 36-3D 96 00 74 2B E9 89 00  .t)=..t6=..t+...
076C:3570 E8 3D F6 83 3E 26 22 01-75 03 E9 A7 00 E9 63 FF  .=...&"..u.....c.
-t
AX=0702 BX=0000 CX=0000 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0021  NU UP EI PL NZ NA PE CY
076A:0021 49           DEC     CX
-t
AX=0702 BX=0000 CX=FFFF DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0022  NU UP EI NG NZ AC PE CY
076A:0022 83C404        ADD     SP,+04
-
```

2) Program → Find the Smallest element in an array

Code

max.asm × min.asm

Users > prashanthsingaravelan > DosBox > 8086 > max.asm

```
1  .model small
2  .stack 64
3  .data
4  .code
5  start:Mov ax, @data
6      Mov ds, ax
7      Mov si, 3000h
8      Mov di, 3500h
9      Mov cl, [si]
10     mov Ch, 00h
11     Inc si
12     Mov al, [si]
13     dec cl
14     inc si
15 next:Cmp al, [si]
16     Jnc fit
17     Mov al, [si]
18 fit:Inc si
19     Loop next
20     Mov [di], al
21     hlt
22     end
```

DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: EDIT

File Edit Search View Options Help
C:\MAX.ASM

```
.model small
.stack 64
.data
.code
start:Mov ax, @data
      Mov ds, ax
      Mov si, 3000h
      Mov di, 3500h
      Mov cl, [si]
      mov Ch, 00h
      Inc si
      Mov al, [si]
      dec cl
      inc si
next:Cmp al, [si]
      Jnc fit
      Mov al, [si]
fit:Inc si
      Loop next
      Mov [di], al
      hlt
      end
```

Commands for manipulating files

Debug Screen

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX

C:\>masm max.asm
Microsoft (R) Macro Assembler Version 5.00
Copyright (C) Microsoft Corp 1981-1985, 1987. All rights reserved.

Object filename [max.OBJ]:
Source listing [NUL.LST]:
Cross-reference [NUL.CRF]:

51682 + 464862 Bytes symbol space free

0 Warning Errors
0 Severe Errors

C:\>link max.obj

Microsoft (R) Overlay Linker Version 3.60
Copyright (C) Microsoft Corp 1983-1987. All rights reserved.

Run File [MAX.EXE]:
List File [NUL.MAP]:
Libraries [LIB]:

C:\>
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

List File [NUL.MAP]:
Libraries [LIB]:

C:\>debug max.exe
-t

AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=0000 DI=0000
DS=075A ES=075A SS=076D CS=076A IP=0003 NU UP EI PL NZ NA PO NC
076A:0003 8ED8 MDU DS,AX
-t

AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=0000 DI=0000
DS=076C ES=075A SS=076D CS=076A IP=0005 NU UP EI PL NZ NA PO NC
076A:0005 BE0030 MDU SI,3000
-t

AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=3000 DI=0000
DS=076C ES=075A SS=076D CS=076A IP=000B NU UP EI PL NZ NA PO NC
076A:000B BF0035 MDU DI,3500
-t

AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000B NU UP EI PL NZ NA PO NC
076A:000B 8A0C MDU CL,[SI] DS:3000=36
-
```



```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
AX=076C BX=0000 CX=0021 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000B NU UP EI PL NZ NA PO NC
076A:000B 8A0C      MOV     CL,[SI]                DS:3000=04
-d ds:3000
076C:3000 04 20 17 FF 36 1E 17 C4-5E F8 26 FF 77 06 E8 15  . . .6...^.&.w...
076C:3010 FF 83 C4 06 C4 5E F8 26-89 47 06 8B 36 22 21 D1  . . . .^.&.G..6"!
076C:3020 E6 8B 1E 38 21 C7 00 00-00 8B 1E 08 27 C7 00 00  . .8!.....'...
076C:3030 00 8B 1E 22 21 D1 E3 D1-E3 8B 3E EC 26 2B C0 89  . ."!.....>.&+..
076C:3040 41 02 89 01 8B 1E 22 21-8B 3E FE 26 C6 01 00 EB  A....."!>.&....
076C:3050 45 90 8B 1E 22 21 D1 E3-D1 E3 8B 3E EC 26 A1 3A  E..."!.....>.&.:
076C:3060 21 8B 16 3C 21 89 01 89-51 02 C4 5E FC 26 8A 47  !...<!...Q..^.&.G
076C:3070 05 8B 1E 22 21 8B 3E FE-26 88 01 8B F3 D1 E6 8B  . ."!>.&.....
-e ds:3000
076C:3000 04.4    20.6    17.2    FF.4    36.8

-d ds:3000
076C:3000 04 06 02 04 08 1E 17 C4-5E F8 26 FF 77 06 E8 15  . . . . .^.&.w...
076C:3010 FF 83 C4 06 C4 5E F8 26-89 47 06 8B 36 22 21 D1  . . . .^.&.G..6"!
076C:3020 E6 8B 1E 38 21 C7 00 00-00 8B 1E 08 27 C7 00 00  . .8!.....'...
076C:3030 00 8B 1E 22 21 D1 E3 D1-E3 8B 3E EC 26 2B C0 89  . ."!.....>.&+..
076C:3040 41 02 89 01 8B 1E 22 21-8B 3E FE 26 C6 01 00 EB  A....."!>.&....
076C:3050 45 90 8B 1E 22 21 D1 E3-D1 E3 8B 3E EC 26 A1 3A  E..."!.....>.&.:
076C:3060 21 8B 16 3C 21 89 01 89-51 02 C4 5E FC 26 8A 47  !...<!...Q..^.&.G
076C:3070 05 8B 1E 22 21 8B 3E FE-26 88 01 8B F3 D1 E6 8B  . ."!>.&.....
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000D NU UP EI PL NZ NA PO NC
076A:000D B500      MOV     CH,00
-t
AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3000 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=000F NU UP EI PL NZ NA PO NC
076A:000F 46      INC     SI
-t
AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3001 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0010 NU UP EI PL NZ NA PO NC
076A:0010 8A04      MOV     AL,[SI]                DS:3001=06
-t
AX=076C BX=0000 CX=0004 DX=0000 SP=0040 BP=0000 SI=3001 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0012 NU UP EI PL NZ NA PO NC
076A:0012 FEC9      DEC     CL
-t
AX=076C BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3001 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0014 NU UP EI PL NZ NA PE NC
076A:0014 46      INC     SI
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3002 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0015  NU UP EI PL NZ NA PO NC
076A:0015 3A04          CMP     AL,[SI]          DS:3002=02
-t

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3002 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0017  NU UP EI PL NZ NA PO NC
076A:0017 7302          JNB     001B
-t

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3002 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001B  NU UP EI PL NZ NA PO NC
076A:001B 46           INC     SI
-t

AX=0706 BX=0000 CX=0003 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001C  NU UP EI PL NZ NA PE NC
076A:001C E2F7          LOOP   0015
-t

AX=0706 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0015  NU UP EI PL NZ NA PE NC
076A:0015 3A04          CMP     AL,[SI]          DS:3003=04
-
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

AX=0706 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0017  NU UP EI PL NZ NA PO NC
076A:0017 7302          JNB     001B
-t

AX=0706 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3003 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001B  NU UP EI PL NZ NA PO NC
076A:001B 46           INC     SI
-t

AX=0706 BX=0000 CX=0002 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001C  NU UP EI PL NZ NA PO NC
076A:001C E2F7          LOOP   0015
-t

AX=0706 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0015  NU UP EI PL NZ NA PO NC
076A:0015 3A04          CMP     AL,[SI]          DS:3004=08
-t

AX=0706 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0017  NU UP EI NG NZ AC PO CY
076A:0017 7302          JNB     001B
-
```

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

AX=0706 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0019 NU UP EI NG NZ AC PO CY
076A:0019 8A04          MOV     AL,[SI]          DS:3004=08
-t

AX=0708 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3004 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001B NU UP EI NG NZ AC PO CY
076A:001B 46          INC     SI
-t

AX=0708 BX=0000 CX=0001 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001C NU UP EI PL NZ NA PE CY
076A:001C E2F7          LOOP    0015
-t

AX=0708 BX=0000 CX=0000 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=001E NU UP EI PL NZ NA PE CY
076A:001E 8805          MOV     DI,AL          DS:3500=74
-t

AX=0708 BX=0000 CX=0000 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0020 NU UP EI PL NZ NA PE CY
076A:0020 F4          HLT
```

Output

```
DOSBox 0.74-3-3, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG

-d ds:3500
076C:3500 08 03 E8 5B 97 80 3E 31-22 00 75 03 E9 1B 01 5E ...[...>1".u...^
076C:3510 8B E5 5D C3 E8 C9 0C A3-26 22 05 03 00 2B D2 01 ..1.....&"...+..
076C:3520 06 B6 25 11 16 B8 25 A1-10 19 24 FE 3D 9C 00 75 ...%...%...$.=..u
076C:3530 05 E8 F6 95 EB 3D 83 3E-AE 07 00 74 03 E8 38 FD .....=>...t...8.
076C:3540 A1 10 19 24 FE 3D 98 00-74 26 76 03 E9 99 00 3D ...$.=..t&v...=
076C:3550 80 00 74 2C 3D 82 00 74-27 3D 8A 00 74 66 3D 8C ..t,...t'...tf=.
076C:3560 00 74 29 3D 94 00 74 36-3D 96 00 74 2B E9 89 00 .t)=..t6=..t+...
076C:3570 E8 3D F6 83 3E 26 22 01-75 03 E9 A7 00 E9 63 FF ...>&"..u.....c.
-t

AX=0708 BX=0000 CX=0000 DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0021 NU UP EI PL NZ NA PE CY
076A:0021 49          DEC     CX
-t

AX=0708 BX=0000 CX=FFFF DX=0000 SP=0040 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0022 NU UP EI NG NZ AC PE CY
076A:0022 83C404        ADD     SP,+04
-t

AX=0708 BX=0000 CX=FFFF DX=0000 SP=0044 BP=0000 SI=3005 DI=3500
DS=076C ES=075A SS=076D CS=076A IP=0025 NU UP EI PL NZ NA PE NC
076A:0025 50          PUSH    AX
```

Video Link → https://www.youtube.com/watch?v=Gm5_NHBmGN0