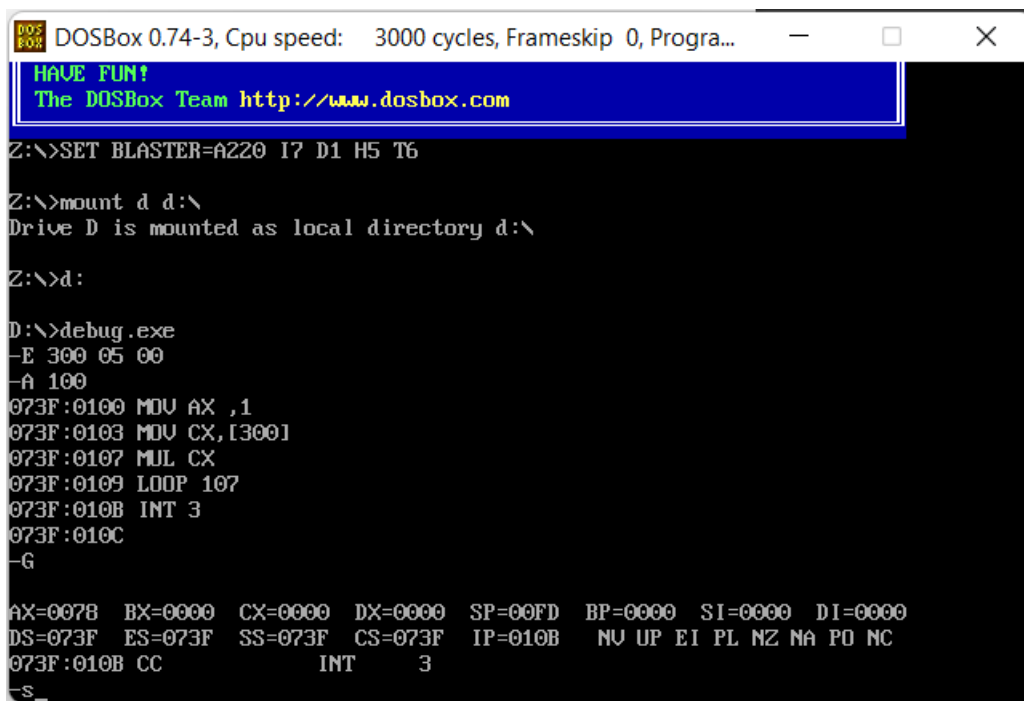


LAB 1

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Problem 1:-

Code :



```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
HAVE FUN!
The DOSBox Team http://www.dosbox.com
Z:\>SET BLASTER=A220 I7 D1 H5 T6
Z:\>mount d d:\
Drive D is mounted as local directory d:\
Z:\>d:
D:\>debug.exe
-E 300 05 00
-A 100
073F:0100 MOV AX,1
073F:0103 MOV CX,13001
073F:0107 MUL CX
073F:0109 LOOP 107
073F:010B INT 3
073F:010C
-G
AX=007B BX=0000 CX=0000 DX=0000 SP=00FD BP=0000 SI=0000 DI=0000
DS=073F ES=073F SS=073F CS=073F IP=010B NU UP EI PL NZ NA PO NC
073F:010B CC INT 3
-s_
```

This code started at A100 , and stored in location 300 in memory 05 00 (little india)

Then he gave CX this value and stored in AX value 1 then multiply CX ,AX and store in AX

Then do this function and decrement CX until CX =0 , so AX = 5*4*3*2*1=120 DECIMAL = 78 HEX

Page:.....	Date:.....
1] Problem one treechng	
	AX CX
in the First	1 5
1 iteration	5 4
2 iteration	20 3
3 iteration	60 2
4 iteration	120 1
5 iteration	120 = 78 Hex 0

Problem 2

Code :-

```

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
Z:\>d:
D:\>debug .exe
-E 400 0A 00
-A 100
073F:0100 MOV AX,0
073F:0103 MOV BX,[400]
073F:0107 CMP CX,BX
073F:0109 JA 112
073F:010B ADD AX,CX
073F:010D ADD CX,2
073F:0110 JMP 107
073F:0112 INT 3
073F:0113
-A 300
073F:0300 MOV CX,0
073F:0303 JMP 100
073F:0306
-G
AX=001E BX=000A CX=000C DX=0000 SP=00FD BP=0000 SI=0000 DI=0000
DS=073F ES=073F SS=073F CS=073F IP=0112 NU UP EI PL NZ NA PO NC
073F:0112 CC INT 3
-s

```

This code first of all we give CX value 0 and go to label 100 which in it AX=0 , BX=A

And this code compare CX and BX if CX > BX we terminate this code else Ax=AX+CX,

CX+=2,then back again to compare in label 107 so CX=0+2+2+2+2+2+2+2=12=c

And AX=0+0+2+4+6+8+10=1E.

```

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
Z:\>mount d d:\
Drive D is mounted as local directory d:\
Z:\>d:
D:\>debug.exe
-E 400 0A 00
-A 100
073F:0100 MOV AX,0
073F:0103 MOV BX,[400]
073F:0107 MOV CX,1
073F:010A CMP CX,BX
073F:010C JA 115
073F:010E ADD AX,CX
073F:0110 ADD CX,2
073F:0113 JMP 10A
073F:0115 INT 3
073F:0116
-G
AX=0019 BX=000A CX=000B DX=0000 SP=00FD BP=0000 SI=0000 DI=0000
DS=073F ES=073F SS=073F CS=073F IP=0115 NU UP EI PL NZ NA PO NC
073F:0115 CC INT 3
-S_

```

If CX=1 and go to label 100 which in it AX=0 , BX=A

And this code compare CX and BX if CX > BX we terminate this code else Ax=AX+CX,

CX+=2,then back again to compare in label 107 so CX=1+2+2+2+2+2+2=11=B

And AX=0+1+3+5+7+9=25=19

Part 1 g=200				Part 2 g=300			
First	CX	AX	BX	First	CX	AX	BX
1	1	0	A	1	0	0	A
2	3	1	A	2	2	0	A
3	5	4	A	3	4	2	A
4	7	9	A	4	6	6	A
5	9	16	A	5	8	12	A
6	11	25	A	6	10	20	A
				7	12	30	A

PROBLEM 3

Code :

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
073F:0103 MOV SI,300
073F:0106 MOV DI,400
073F:0109 MOV BX,CX
^ Error
073F:0109 MOV BX,CX
073F:010B DEC BX
073F:010C MOV DL,[DI+BX]
073F:010E ADD AX,DX
073F:0110 MOV DL,[SI+BX]
073F:0112 ADD AX,DX
073F:0114 MOV [BX+500],AL
073F:0118 MOV AL,AH
073F:011A MOV AH,00
073F:011C LOOP 109
073F:011E MOV [500+BI],AL
073F:0121 INT 3
073F:0122 G
^ Error
073F:0122
-G
AX=0001 BX=0000 CX=0000 DX=00CF SP=00FD BP=0000 SI=0300 DI=0400
DS=073F ES=073F SS=073F CS=073F IP=0121 NV UP EI PL NZ NA PE NC
073F:0121 CC INT 3
-s
```

in this code I make a pointer on address 300 and 400 using SI,DI then using E to give address 300 ,400 the values and started from 100 using A 100 ,

**All the byte I put it in the first places ,so I put the carry in [500+B] location [sorry for that]

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
073F:0112 ADD AX,DX
073F:0114 MOV [BX+500],AL
073F:0118 MOV AL,AH
073F:011A MOV AH,00
073F:011C LOOP 109
073F:011E MOV [500+BI],AL
073F:0121 INT 3
073F:0122 G
^ Error
073F:0122
-G
AX=0001 BX=0000 CX=0000 DX=00CF SP=00FD BP=0000 SI=0300 DI=0400
DS=073F ES=073F SS=073F CS=073F IP=0121 NV UP EI PL NZ NA PE NC
073F:0121 CC INT 3
-D 500
073F:0500 0F BD 8D 2D FF 00 BB 4F-85 D4 00 01 00 00 00 00 ...-...0.....
073F:0510 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
073F:0520 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
073F:0530 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
073F:0540 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
073F:0550 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
073F:0560 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
073F:0570 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 .....
-s
```