

COAL LAB:

TASK NUMBER :02

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Roll-Number: 22P-9009.

STEP:1

So at first we basically load the whole program and done all the things like we did in Lab Number 01

STEP:2

Then we just go on code press f1 and go on next command and see what happens .In first row it basically originates like from 100 [0x100]

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

AX 0005	SI 0000	CS 19F5	IP 0103	Stack +0 0000	Flags 7200
BX 0000	DI 0000	DS 19F5		+2 20CD	
CX 0012	BP 0000	ES 19F5	HS 19F5	+4 9FFF	OF DF IF SF ZF AF PF
DX 0000	SP FFFE	SS 19F5	FS 19F5	+6 EA00	0 0 1 0 0 0 0

CMD >

0103 BB0A00	MOV	BX,000A
0106 01D8	ADD	AX,BX
0108 BB0F00	MOV	BX,000F
010B 01D8	ADD	AX,BX
010D BB004C	MOV	AX,4C00
0110 CD21	INT	21
0112 EB04	JMP	0118
0114 31D2	XOR	DX,DX

1

DS:0000	CD 20 FF 9F 00 EA F0
DS:0008	AD DE 1B 05 C5 06 00
DS:0010	18 01 10 01 18 01 92
DS:0018	01 01 01 00 02 FF FF
DS:0020	FF FF FF FF FF FF FF
DS:0028	FF FF FF FF EB 19 C0
DS:0030	A2 01 14 00 18 00 F5
DS:0038	FF FF FF FF 00 00 00
DS:0040	05 00 00 00 00 00 00
DS:0048	00 00 00 00 00 00 00

2

DS:0000	CD 20 FF 9F 00 EA F0 FE	AD DE 1B 05 C5 06 00 00	= f.Ω≡■ i ..†.
DS:0010	18 01 10 01 18 01 92 01	01 01 01 00 02 FF FF FFft.
DS:0020	FF FF FF FF FF FF FF FF	FF FF FF FF EB 19 C0 11	δ.
DS:0030	A2 01 14 00 18 00 F5 19	FF FF FF FF 00 00 00 00	ó.....J. ..
DS:0040	05 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00

STEP:3

Load the constant value 5 into the register ax.

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

AX 0005	SI 0000	CS 19F5	IP 0103	Stack +0 0000	Flags 7200
BX 0000	DI 0000	DS 19F5		+2 20CD	
CX 0012	BP 0000	ES 19F5	HS 19F5	+4 9FFF	OF DF IF SF ZF AF PF
DX 0000	SP FFFE	SS 19F5	FS 19F5	+6 EA00	0 0 1 0 0 0 0

CMD >

0103 BB0A00	MOV	BX,000A
0106 01D8	ADD	AX,BX
0108 BB0F00	MOV	BX,000F
010B 01D8	ADD	AX,BX
010D BB004C	MOV	AX,4C00
0110 CD21	INT	21
0112 EB04	JMP	0118
0114 31D2	XOR	DX,DX

1

DS:0000	CD 20 FF 9F 00 EA F0
DS:0008	AD DE 1B 05 C5 06 00
DS:0010	18 01 10 01 18 01 92
DS:0018	01 01 01 00 02 FF FF
DS:0020	FF FF FF FF FF FF FF
DS:0028	FF FF FF FF EB 19 C0
DS:0030	A2 01 14 00 18 00 F5
DS:0038	FF FF FF FF 00 00 00
DS:0040	05 00 00 00 00 00 00
DS:0048	00 00 00 00 00 00 00

2

DS:0000	CD 20 FF 9F 00 EA F0 FE	AD DE 1B 05 C5 06 00 00
DS:0010	18 01 10 01 18 01 92 01	01 01 01 00 02 FF FF FF
DS:0020	FF FF FF FF FF FF FF FF	FF FF FF FF EB 19 C0 11
DS:0030	A2 01 14 00 18 00 F5 19	FF FF FF FF 00 00 00 00
DS:0040	05 00 00 00 00 00 00 00	00 00 00 00 00 00 00 00

= f.Ω≡■

δ.....J.....

STEP:4

Load the constant value 10 into the register bx.

STEP:5

Add the value in register bx to the value in register ax.

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DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: AFD
AX 0005 SI 0000 CS 19F5 IP 0106 Stack +0 0000 Flags 7200
BX 000A DI 0000 DS 19F5 +2 20CD
CX 0012 BP 0000 ES 19F5 HS 19F5 +4 9FFF OF DF IF SF ZF AF PF CF
DX 0000 SP FFFE SS 19F5 FS 19F5 +6 EA00 0 0 1 0 0 0 0 0

CMD >

0103 BB0A00 MOV BX,000A
0105 01D8 ADD AX,BX
0108 BB0F00 MOV BX,000F
010B 01D8 ADD AX,BX
010D B8004C MOV AX,4C00
0110 CD21 INT 21
0112 EB04 JMP 0118
0114 31D2 XOR DX,DX
0116 31C0 XOR AX,AX

1
DS:0000 CD 20 FF 9F 00 EA F0 FE
DS:0008 AD DE 1B 05 C5 06 00 00
DS:0010 18 01 10 01 18 01 92 01
DS:0018 01 01 01 00 02 FF FF FF
DS:0020 FF FF FF FF FF FF FF FF
DS:0028 FF FF FF FF EB 19 C0 11
DS:0030 A2 01 14 00 18 00 F5 19
DS:0038 FF FF FF FF 00 00 00 00
DS:0040 05 00 00 00 00 00 00 00
DS:0048 00 00 00 00 00 00 00 00

2
DS:0000 CD 20 FF 9F 00 EA F0 FE AD DE 1B 05 C5 06 00 00 = f.Ω≡ i |..†...
DS:0010 18 01 10 01 18 01 92 01 01 01 01 00 02 FF FF FF .....ff. ....
DS:0020 FF FF FF FF FF FF FF FF FF FF FF FF EB 19 C0 11 δ.L.
DS:0030 A2 01 14 00 18 00 F5 19 FF FF FF FF 00 00 00 00 6.....J. ....
DS:0040 05 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

1 Step 2ProcStep 3Retrieve 4Help ON 5BRK Menu 6 7 up 8 dn 9 le 10 ri

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STEP:6

Load the constant value 15 into the register bx.

STEP:7

Add the value in register bx to the value in register ax.

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DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: AFD
AX 000F SI 0000 CS 19F5 IP 010B Stack +0 0000 Flags 7204
BX 000F DI 0000 DS 19F5 +2 20CD
CX 0012 BP 0000 ES 19F5 HS 19F5 +4 9FFF OF DF IF SF ZF AF PF CF
DX 0000 SP FFFE SS 19F5 FS 19F5 +6 EA00 0 0 1 0 0 0 1 0

CMD >

0108 B80F00 MOV BX,000F
010B 01D8 ADD AX,BX
010D B8004C MOV AX,4C00
0110 CD21 INT 21
0112 EB04 JMP 0118
0114 31D2 XOR DX,DX
0116 31C0 XOR AX,AX
0118 8956E4 MOV [BP-1C],DX
011B 8946E6 MOV [BP-1A],AX

1
DS:0000 CD 20 FF 9F 00 EA F0 FE
DS:0008 AD DE 1B 05 C5 06 00 00
DS:0010 18 01 10 01 18 01 92 01
DS:0018 01 01 01 00 02 FF FF FF
DS:0020 FF FF FF FF FF FF FF FF
DS:0028 FF FF FF FF EB 19 C0 11
DS:0030 A2 01 14 00 18 00 F5 19
DS:0038 FF FF FF FF 00 00 00 00
DS:0040 05 00 00 00 00 00 00 00
DS:0048 00 00 00 00 00 00 00 00

2
DS:0000 CD 20 FF 9F 00 EA F0 FE AD DE 1B 05 C5 06 00 00 = f.Ω≡ i |..†...
DS:0010 18 01 10 01 18 01 92 01 01 01 01 00 02 FF FF FF .....ff. ....
DS:0020 FF FF FF FF FF FF FF FF FF FF FF FF EB 19 C0 11 δ.L.
DS:0030 A2 01 14 00 18 00 F5 19 FF FF FF FF 00 00 00 00 ó.....J. ....
DS:0040 05 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

1 Step 2ProcStep 3Retrieve 4Help ON 5BRK Menu 6 7 up 8 dn 9 le 10 ri
GAMES

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STEP:8

Set register ax to the value 0x4c00.

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DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: AFD
AX 0000 SI 0000 CS 19F5 IP 0100 Stack +0 0000 Flags 7202
BX 0000 DI 0000 DS 19F5 +2 20CD
CX 0000 BP 0000 ES 19F5 HS 19F5 +4 9FFF OF DF IF SF ZF AF PF CF
DX 0000 SP FFFE SS 19F5 FS 19F5 +6 EA00 0 0 1 0 0 0 0 0

CMD >

> Program terminated OK
0100 B80500 MOV AX,0005
0103 BB0A00 MOV BX,000A
0106 01D8 ADD AX,BX
0108 BB0F00 MOV BX,000F
010B 01D8 ADD AX,BX
010D B8004C MOV AX,4C00
0110 CD21 INT 21
0112 EB04 JMP 0118

1 0 1 2 3 4 5 6 7
DS:0000 CD 20 FF 9F 00 EA FF FF
DS:0008 AD DE 1B 05 C5 06 00 00
DS:0010 18 01 10 01 18 01 92 01
DS:0018 01 01 01 00 02 FF FF FF
DS:0020 FF FF FF FF FF FF FF FF
DS:0028 FF FF FF FF EB 19 E4 11
DS:0030 A2 01 14 00 18 00 F5 19
DS:0038 FF FF FF FF 00 00 00 00
DS:0040 05 00 00 00 00 00 00 00
DS:0048 00 00 00 00 00 00 00 00

2 0 1 2 3 4 5 6 7 8 9 A B C D E F
DS:0000 CD 20 FF 9F 00 EA FF FF AD DE 1B 05 C5 06 00 00 = f.Ω i|..†...
DS:0010 18 01 10 01 18 01 92 01 01 01 01 00 02 FF FF FF .....ft. ....
DS:0020 FF FF FF FF FF FF FF FF FF FF FF FF EB 19 E4 11 δ.Σ.
DS:0030 A2 01 14 00 18 00 F5 19 FF FF FF FF 00 00 00 00 ó.....J. ....
DS:0040 05 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

1 Step 2ProcStep 3Retrieve 4Help ON 5BRK Menu 6 7 up 8 dn 9 le 10 ri

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STEP:9

Call the operating system interrupt 0x21 to terminate the program.