

## PROGRAMS

### 1. Write an ALP to add given series of Numbers

<pre> ASSUME CS:CODE, DS:DATA  DATA SEGMENT LIST DB 01H,02H,03H,04H,05H COUNT DB 05H RES DW 0H DATA ENDS  CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H  MOV CL,COUNT LEA SI,LIST GO: ADD AL,[SI] INC SI DEC CL JNZ GO MOV RES,AX  INT 03H CODE ENDS END START </pre>	<pre> -U 0745:0000 B84407      MOV     AX,0744 0745:0003 8ED8        MOV     DS,AX 0745:0005 B80000      MOV     AX,0000 0745:0008 8A0E0500    MOV     CL,[0005] 0745:000C BE0000      MOV     SI,0000 0745:000F 0204      ADD     AL,[SI] 0745:0011 46          INC     SI 0745:0012 FEC9      DEC     CL 0745:0014 75F9      JNZ     000F 0745:0016 A30600      MOV     [0006],AX 0745:0019 CC        INT     3 </pre> <p style="text-align: center;"><b>Result</b></p> <p><b>Registers</b></p> <p>AX=000F BX=0000 CX=0000</p> <p><b>Data Segment</b></p> <p>-D DS:0</p> <p>0744:0000 01 02 03 04 05 05 0F</p> <p><b>Flag Register</b></p> <p>NU UP EI PL ZR NA PE NC</p>
---	---

## 2. Write an ALP to find average of given series of Numbers

ASSUME CS:CODE, DS:DATA  DATA SEGMENT LIST DB 01H,02H,03H,04H,05H COUNT DB 05H RES DB 0H DATA ENDS  CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H  MOV CL,COUNT LEA SI,LIST GO: ADD AL,[SI] INC SI DEC CL JNZ GO MOV CL,COUNT DIV CL MOV RES,AL  INT 03H CODE ENDS END START	<pre> -U 0745:0000 B84407      MOV     AX,0744 0745:0003 8ED8        MOV     DS,AX 0745:0005 B80000      MOV     AX,0000 0745:0008 8A0E0500     MOV     CL,[0005] 0745:000C BE0000      MOV     SI,0000 0745:000F 0204        ADD     AL,[SI] 0745:0011 46          INC     SI 0745:0012 FEC9        DEC     CL 0745:0014 75F9        JNZ     000F 0745:0016 8A0E0500     MOV     CL,[0005] 0745:001A F6F1        DIV     CL 0745:001C A20600      MOV     [0006],AL 0745:001F CC          INT     3 </pre> <p style="text-align: center;"><b>Result</b></p> <p><b>Registers</b>  AX=0003 BX=0000 CX=0005</p> <p><b>Data Segment</b>  -D DS:0  0744:0000 01 02 03 04 05 05 03</p> <p><b>Flag Register</b>  NU UP EI PL ZR NA PE NC</p>
---	--

### 3. Write an ALP and execute program to find sum of squares of given series of Numbers

ASSUME CS:CODE, DS:DATA  DATA SEGMENT LIST DB 01H,02H,03H,04H,05H COUNT DB 05H RES DW 0H DATA ENDS  CODE SEGMENT START: MOV AX, DATA MOV DS, AX MOV AX,0H MOV BX,0H MOV DX,0H  MOV CL,COUNT LEA SI,LIST LEA DI,LIST  GO: MOV AL,[SI] MOV BL,[SI] MUL BL INC SI ADD DX,AX DEC CL JNZ GO MOV RES,DX  INT 03H CODE ENDS END START	<pre> -U 0745:0000 B84407      MOV     AX,0744 0745:0003 8ED8        MOV     DS,AX 0745:0005 B80000      MOV     AX,0000 0745:0008 BA0000      MOV     DX,0000 0745:000B 8A0E0500    MOV     CL,[0005] 0745:000F BE0000      MOV     SI,0000 0745:0012 BF0000      MOV     DI,0000 0745:0015 8A04        MOV     AL,[SI] 0745:0017 8A1C        MOV     BL,[SI] 0745:0019 F6E3        MUL     BL 0745:001B 46          INC     SI 0745:001C 03D0      ADD     DX,AX 0745:001E FEC9      DEC     CL  -U 0745:0020 75F3        JNZ     0015 0745:0022 89160600    MOV     [0006],DX 0745:0026 CC        INT     3 </pre> <p style="text-align: center;">Result</p> <p>Registers</p> <p>AX=0019 BX=0005 CX=0000 DX=0037</p> <p>Data Segment</p> <pre> -D DS:0 0744:0000 01 02 03 04 05 05 37 00 </pre> <p>Flag Register</p> <p>NU UP EI PL ZR NA PE NC</p>
--	--

**4. Write an ALP and execute program to find sum of cubes of given series of Numbers**

ASSUME CS:CODE, DS:DATA	-U		
DATA SEGMENT	0745:0000 B84407	MOV	AX,0744
LIST DB 01H,02H,03H,04H,05H	0745:0003 8ED8	MOV	DS,AX
COUNT DB 05H	0745:0005 B80000	MOV	AX,0000
RES DW 0H	0745:0008 BA0000	MOV	DX,0000
DATA ENDS	0745:000B 8A0E0500	MOV	CL,[0005]
	0745:000F BE0000	MOV	SI,0000
CODE SEGMENT	0745:0012 BF0000	MOV	DI,0000
START:	0745:0015 8A04	MOV	AL,[SI]
MOV AX, DATA	0745:0017 8A1C	MOV	BL,[SI]
MOV DS, AX	0745:0019 F6E3	MUL	BL
MOV AX,0H	0745:001B F6E3	MUL	BL
MOV BX,0H	0745:001D 46	INC	SI
MOV DX,0H	0745:001E 03D0	ADD	DX,AX
	-U		
MOV CL,COUNT	0745:0020 FEC9	DEC	CL
LEA SI,LIST	0745:0022 75F1	JNZ	0015
LEA DI,LIST	0745:0024 89160600	MOV	[0006],DX
	0745:0028 CC	INT	3
		Result	
GO:		Registers	
MOV AL,[SI]		AX=007D BX=0005 CX=0000 DX=00E1	
MOV BL,[SI]		Data Segment	
MUL BL		-D DS:0	
MUL BL		0744:0000 01 02 03 04 05 05 E1 00	
INC SI		Flag Register	
ADD DX,AX		NU UP EI PL ZR NA PE NC	
DEC CL			
JNZ GO			
MOV RES,DX			
INT 03H			
CODE ENDS			
END START			