PROGRAMS

1. Write an ALP to add 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 CL,COUNT

LEA SI,LIST

GO:

ADD AL,[SI]

INC SI

DEC CL

JNZ GO

MOV RES,AX

INT 03H

CODE ENDS
```

```
-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
```

Result

Registers

```
AX=000F BX=0000 CX=0000
```

Data Segment

```
-D DS:0
0744:0000  01 02 03 04 05 05 0F
```

Flag Register

```
NV UP EI PL ZR NA PE NC
```

END START	

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

```
-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
```

Result

Registers

```
AX=0003 BX=0000 CX=0005
```

Data Segment

```
-D DS:0
0744:0000  01 02 03 04 05 05 03
```

Flag Register

```
NV UP EI PL ZR NA PE NC
```

DIV CL **MOV RES,AL** **INT 03H** **CODE ENDS** **END START**	

3. Write an ALP and execute progam 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
```

```
-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
```

Result

Registers

```
AX=0019 BX=0005 CX=0000 DX=0037
```

Data Segment

```
-D DS:0
0744:0000  01 02 03 04 05 05 37 00
```

Flag Register

```
NV UP EI PL ZR NA PE NC
```

ADD DX,AX
DEC CL
JNZ GO
MOV RES,DX
 	
INT 03H
CODE ENDS
END START	

4. Write an ALP and execute progam to find sum of cubes 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
MUL BL
```

```
-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 F6E3            MUL     BL
0745:001D 46              INC     SI
0745:001E 03D0            ADD     DX,AX

-U
0745:0020 FEC9            DEC     CL
0745:0022 75F1            JNZ     0015
0745:0024 89160600        MOV     [0006],DX
0745:0028 CC              INT     3
```

Result

Registers

```
AX=007D BX=0005 CX=0000 DX=00E1
```

Data Segment

```
-D DS:0
0744:0000  01 02 03 04 05 05 E1 00-
```

Flag Register

```
NV UP EI PL ZR NA PE NC
```

INC SI
ADD DX,AX
DEC CL
JNZ GO
MOV RES,DX
 	
INT 03H
CODE ENDS
END START	