PROGRAM TO SEPARATE AND ADD NIBBLES OF A BYTE

DATA SEGMENT

A1 DB 12h

A2 DB 00H

A3 DB 00H

A4 DB 00H

DATA ENDS

CODE SEGMENT

ASSUME CS:CODE,DS:DATA

START: MOV AX,DATA

MOV DS,AX

MOV AL,A1

AND AL,0FH

MOV A2,AL

MOV CH,AL

MOV AL,A1

AND AL,0F0H

MOV CL,04H

ROL AL,CL

MOV A3,AL

ADD AL,CH

MOV A4,AL

INT 3

CODE ENDS

END START

SUM OF BYTES OF A 16 BIT NUMBER

DATA SEGMENT

A1 DW 1234h

A2 DB 00H

A3 DB 00H

A4 DB 00H

A5 DB 00H

DATA ENDS

CODE SEGMENT

ASSUME CS:CODE,DS:DATA

START: MOV AX,DATA

MOV DS,AX

MOV AX,A1

MOV A2,AH

MOV A3,AL

MOV CL,00H

ADD AH,AL

JNC NEXT

INC CL

NEXT: MOV A4,AH

MOV A5,CL

INT 3

CODE ENDS

END START

EXCHANGE NIBBLES OF A BYTE

DATA SEGMENT

A1 DB 12h

A2 DB 00H

DATA ENDS

CODE SEGMENT

ASSUME CS:CODE,DS:DATA

START: MOV AX,DATA

MOV DS,AX

MOV AL,A1

MOV CL,04

ROR AL,CL

MOV A2,AL

INT 3

CODE ENDS

END START

TO EVALUATE 2X + Y WHERE X AND Y ARE BYTES

DATA SEGMENT

A1 DB 02H

X DB 12h

Y DW 45H

A3 DW 0000H

DATA ENDS

CODE SEGMENT

ASSUME CS:CODE,DS:DATA

START: MOV AX,DATA

MOV DS,AX

MOV AL,X

MOV AH,00H

MOV BL,A1

MUL BL

MOV A3,AX

ADD AL,Y

JNC NEXT

INC AH

NEXT: MOV A3,AX

INT 3

CODE ENDS

END START