**Division**

**16 Bits**

model small

.386

.data

DATA1 dw 0000H

DATA2 dw 0000H

REM dw ?

QUO dw ?

msg db 10,13,"Enter the first no.:: $"

msg1 db 10,13,"Enter the second no.:: $"

msg2 db 10,13,"The Remainder is :: $"

msg3 db 10,13,"The Quotient is :: $"

.code

.startup

MOV AH,09

MOV DX,OFFSET msg

INT 21H

MOV BX,0

MOV CX,4

AGAIN: MOV AH,01 ;1ST NO. ENTERED

INT 21H

CMP AL,'A'

JGE L5

JMP L6

L5: SUB AL,37H

L6: SUB AL,30H

SHL EBX,4

ADD BL,AL

LOOP AGAIN

MOV DATA1, BX

MOV AH,09

MOV DX, OFFSET msg1

INT 21H

MOV BX, 0

MOV CX, 4

AGAIN1: MOV AH,01 ;2nd NO. ENTERED

INT 21H

CMP AL,'A'

JGE L7

SUB AL, 30H

JMP L8

L7: SUB AL, 37H

L8: SHL BX, 4

ADD BL,AL

LOOP AGAIN1

MOV DATA2, BX

MOV BX,0

MOV DX,0

MOV AX, 0

MOV AX, DATA1

MOV BX,DATA2

DIV BX

MOV REM, DX ;REM=REMAINDER

MOV QUO, AX ;QUO=QUOTIENT

MOV AH,09

MOV DX,OFFSET msg2

INT 21H

MOV BX, REM

MOV CX,4

AGAIN2: ROL BX,4

MOV DL,BL

AND DL,0FH ; to o/p the result in rem

CMP DL,9

JBE L1

ADD DL,37H

MOV AH,02

INT 21H

JMP L2

L1: ADD DL,30H

MOV AH,02

INT 21H

L2: LOOP AGAIN2

MOV AH,09

MOV DX,OFFSET msg3

INT 21H

MOV BX, QUO

MOV CX,4

AGAIN3: ROL BX, 4

MOV DL,BL

AND DL,0FH ; to o/p the result in quo

CMP DL,9

JBE L3

ADD DL,37H

MOV AH,02

INT 21H

JMP L4

L3: ADD DL,30H

MOV AH,02

INT 21H

L4: LOOP AGAIN3

.EXIT

END

**32 Bits**

.model small

.386

.data

DATA1 dd 00000000H

DATA2 dd 00000000H

REM dd ?

QUO dd ?

msg db 10,13,"Enter the first no.:: $"

msg1 db 10,13,"Enter the second no.:: $"

msg2 db 10,13,"The Remainder is :: $"

msg3 db 10,13,"The Quotient is :: $"

.code

.startup

MOV AH,09

MOV DX,OFFSET msg

INT 21H

MOV EBX,0

MOV CX,8

AGAIN: MOV AH,01 ;1ST NO. ENTERED

INT 21H

CMP AL,'A'

JGE L5

JMP L6

L5: SUB AL,37H

L6: SUB AL,30H

SHL EBX,4

ADD BL,AL

LOOP AGAIN

MOV DATA1,EBX

MOV AH,09

MOV DX,OFFSET msg1

INT 21H

MOV EBX,0

MOV CX,8

AGAIN1:MOV AH,01 ;2nd NO. ENTERED

INT 21H

CMP AL,'A'

JGE L7

SUB AL,30H

JMP L8

L7: SUB AL,37H

L8: SHL EBX,4

ADD BL,AL

LOOP AGAIN1

MOV DATA2,EBX

MOV EBX,0

MOV EDX,0

MOV EAX,0

MOV EAX,DATA1

MOV EBX,DATA2

DIV EBX

MOV REM,EDX ;REM=REMAINDER

MOV QUO,EAX ;QUO=QUOTIENT

MOV AH,09

MOV DX,OFFSET msg2

INT 21H

MOV EBX,REM

MOV CX,8

AGAIN2: ROL EBX,4

MOV DL,BL

AND DL,0FH ; to o/p the result in rem

CMP DL,9

JBE L1

ADD DL,37H

MOV AH,02

INT 21H

JMP L2

L1: ADD DL,30H

MOV AH,02

INT 21H

L2: LOOP AGAIN2

MOV AH,09

MOV DX,OFFSET msg3

INT 21H

MOV EBX,QUO

MOV CX,8

AGAIN3: ROL EBX,4

MOV DL,BL

AND DL,0FH ; to o/p the result in quo

CMP DL,9

JBE L3

ADD DL,37H

MOV AH,02

INT 21H

JMP L4

L3: ADD DL,30H

MOV AH,02

INT 21H

L4: LOOP AGAIN3

.EXIT

END