.MODEL SMALL

.386

.DATA

X DD ?

Y DD ?

R DD ?

Q DD ?

MSG1 db 10,13,'Enter first number : $'

MSG2 db 10,13,'Enter second number : $'

MSG3 db 10,13,'Their sum is : $'

MSG4 db 10,13,'Their difference is : $'

MSG5 db 10,13,'Their product is : $'

MSG6 db 10,13,'Their quotient is : $'

MSG7 db 10,13,'Their remainder is : $'

.CODE

.STARTUP

;First Number

MOV DX,OFFSET MSG1

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV EBX,0

MOV CX,8

L2 : SHL EBX,4

MOV AH,01

INT 21H

CMP AL,39H

JBE L1

SUB AL,7

L1 : SUB AL,30H

ADD BL,AL

LOOP L2

MOV DL,10

MOV AH,02

INT 21H

MOV X,EBX

;Second Number

MOV DX,OFFSET MSG2

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV EBX,0

MOV CX,8

L4 : SHL EBX,4

MOV AH,01

INT 21H

CMP AL,39H

JBE L3

SUB AL,7

L3 : SUB AL,30H

ADD BL,AL

LOOP L4

MOV DL,10

MOV AH,02

INT 21H

MOV Y,EBX

MOV EAX,X

;Addition

ADD EBX,EAX

MOV DX,OFFSET MSG3

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV CX,8

L6 : ROL EBX,4

MOV AL,BL

AND AL,0FH

CMP AL,9H

JBE L5

ADD AL,7H

L5 : ADD AL,30H

MOV DL,AL

MOV AH,02

INT 21H

LOOP L6

MOV DL,10

MOV AH,02

INT 21H

;Subtraction

MOV DX,OFFSET MSG4

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV EBX,X

MOV EAX,Y

CMP EAX,EBX

JBE LX

MOV DL,'-'

MOV AH,02

INT 21H

MOV EAX,Y

XCHG EAX,EBX

LX : SUB EBX,EAX

MOV CX,8

L8 : ROL EBX,4

MOV AL,BL

AND AL,0FH

CMP AL,9H

JBE L7

ADD AL,7H

L7 : ADD AL,30H

MOV DL,AL

MOV AH,02

INT 21H

LOOP L8

MOV DL,10

MOV AH,02

INT 21H

;Multiply

MOV DX,OFFSET MSG5

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV EAX,X

MOV EBX,Y

MUL EBX

MOV EBX,EAX

MOV CX,8

L10 : ROL EBX,4

MOV AL,BL

AND AL,0FH

CMP AL,9H

JBE L9

ADD AL,7H

L9 : ADD AL,30H

MOV DL,AL

MOV AH,02

INT 21H

LOOP L10

MOV DL,10

MOV AH,02

INT 21H

MOV EDX,0

MOV ECX,Y

MOV EAX,X

;Divide

DIV ECX

MOV R,EDX

MOV Q,EAX

MOV DX,OFFSET MSG6

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV EBX,Q

MOV CX,8

L12 : ROL EBX,4

MOV AL,BL

AND AL,0FH

CMP AL,9H

JBE L11

ADD AL,7H

L11 : ADD AL,30H

MOV DL,AL

MOV AH,02

INT 21H

LOOP L12

MOV DL,10

MOV AH,02

INT 21H

MOV DX,OFFSET MSG7

MOV AH,09

INT 21H

MOV DL,10

MOV AH,02

INT 21H

MOV EBX,R

MOV CX,8

L14 : ROL EBX,4

MOV AL,BL

AND AL,0FH

CMP AL,9H

JBE L13

ADD AL,7H

L13 : ADD AL,30H

MOV DL,AL

MOV AH,02

INT 21H

LOOP L14

MOV DL,10

MOV AH,02

INT 21H

.EXIT

END