#ADDITION OF TWO DIGIT INPUT NUMBERS

.MODEL SMALL

.STACK

.DATA

MSG1 DB 10,13, 'Enter First Number: $'

MSG2 DB 10,13, 'Enter Second Number: $'

MSG3 DB 10,13, 'SUM: $'

MSG4 DB 10,13, 'DIFFERENCE: $'

MSG5 DB 10,13, 'PRODUCT: $'

MSG6 DB 10,13, 'QUOTIENT: $'

NEGA DB '-$'

NUM1 DB 0

NUM2 DB 0

DIG1 DB 0

DIG2 DB 0

ANS DB 0

.CODE

MAIN PROC

MOV AX,@DATA

MOV DS,AX

ENT1:

MOV DX,OFFSET MSG1 ;display prompt for first number

MOV AH,09H

int 21h

MOV AH,01H ;input first number

INT 21H

CMP AL,'0' ;check if it is in range from 0 - 9

JB ENT1

CMP AL,'9'

JA ENT1

SUB AL,30H ;convert to real number entered

MOV DIG1,AL

MOV AH,01H ;input first number

INT 21H

CMP AL,'0' ;check if it is in range from 0 - 9

JB ENT1

CMP AL,'9'

JA ENT1

SUB AL,30H ;convert to real number entered

MOV DIG2,AL

MOV AL,DIG1 ;convert 1st digit to tens place

MOV BL,10

MUL BL

MOV NUM1,AL ;add 1st digit to 2nd digit

MOV AL,DIG2

ADD NUM1,AL

ENT2:

MOV DX,OFFSET MSG2 ;display prompt for second number

MOV AH,09H

int 21h

MOV AH,01H ;input second number

INT 21H

CMP AL,'0' ;check if it is in range from 0 - 9

JB ENT2

CMP AL,'9'

JA ENT2

SUB AL,30H ; convert to real number entered

MOV DIG1,AL

MOV AH,01H ;input second number

INT 21H

CMP AL,'0' ;check if it is in range from 0 - 9

JB ENT2

CMP AL,'9'

JA ENT2

SUB AL,30H ;convert to real number entered

MOV DIG2,AL

MOV AL,DIG1

MOV BL,10

MUL BL

MOV NUM2,AL

MOV AL,DIG2

ADD NUM2,AL

ADDITION:

MOV BL,NUM1

ADD BL,NUM2

CALL CHANGE

MOV DX,OFFSET MSG3

CALL RESULT

SUBTRACTION:

MOV BL, NUM1

CMP BL, NUM2

JL LESS

SUB BL, NUM2

CALL CHANGE

MOV DX,OFFSET MSG4

CALL RESULT

LESS:

MOV BL, NUM2

SUB BL, NUM1

CALL CHANGE

MOV DX, OFFSET MSG4

MOV AH,09H

int 21h

MOV DX, OFFSET NEGA

CALL RESULT

MOV AH,4CH ; exit to DOS

INT 21H

MAIN ENDP

CHANGE PROC

MOV AH,0

MOV AL,BL

MOV BL,10

DIV BL

MOV BL,AL

MOV BH,AH

ADD BH,30H ; convert to ascii code

MOV ANS,BH

MOV AH,0

MOV AL,BL

MOV BL,10

DIV BL

MOV BL,AL

MOV BH,AH

ADD BH,30h ; convert to ascii code

ADD BL, 30h ; covert to ascii code

RET

CHANGE ENDP

RESULT PROC

MOV AH,09H

INT 21H

MOV DL,BL

MOV AH,02H

INT 21H

MOV DL,BH

MOV AH,02H

INT 21H

MOV DL,ANS

MOV AH,02H

INT 21H

RET

RESULT ENDP

END