.model small ; size of program

.data

msg1 db 10,13, "Enter number of elements : $" ;indicates data

segment

msg2 db 10,13, "Enter number : $" ;data declaration

msg3 db 10,13, "Output is : $"

a db 0 ;set a=0

b db 0 ;set b=0

.code ;indicates code segment

mov ax,@data

mov ds,ax

mov ah,09h ;To Display First Message

lea dx,msg1

int 21h

call accept1 ;call the accept1 procedure

mov cl,bl

next1:mov ah,09h ;To Display Second Message

lea dx,msg2

int 21h

call accept1 ;call the accept1 procedure

mov dx,0 ;initialize dx with the value 0

add a,bl ;add a and bl register and store value in a

jnc next ;jump if no carry to next label

inc dl ;increment dl by 1

add b,dl ;add b and dl register and store value in b

next:dec cl ;decrement cl by 1

jnz next1 ;jump if not zero to next1 label

mov ah,09 ;To Display Third Message

lea dx,msg3

int 21h

mov al,b ;To Display carry

call display1 ;call the display1 procedure

mov al,a ;To Display sum

call display1 ;call the display1 procedure

jmp exit ;jump to exit label

;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

proc display1 ;display1 procedure

mov ch,02 ;initialize ch with 2 ,to print two digit numbers

mov cl,04 ;initialize cl with 4 ,to rotate number 4 times

mov bh,al ;move the result in bh

l2: rol bh,cl ;rotate bh left by 4 times

mov dl,bh ;move contents of bh to dl

and dl,0fh ;logical and dl with 0fh

cmp dl,09 ;compare dl with 09

jbe l1 ;jump to l1 if equal

add dl,07h ;For converting hex to ascii,add 30 if number<=9

l1: add dl,30h ;For converting hex to ascii,add 37 if number from A to F

mov ah,02 ;To print single digit

int 21h

dec ch ;Decrement counter by 1

jnz l2

ret

display1 endp ;End display1 procedure

;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

proc accept1 ;accept1 procedure

mov bx,0 ;initialize bx with 0

mov ch,02 ;move value 2 to ch , to enter 2 digit number

a4: mov ah,01 ;To accept single digit from user

int 21h

mov dl,al

cmp dl,39h ;compare dl with 39

jbe a3 ;jump to a3 if below or equal

cmp dl,39h ;compare dl with 39

jg a6 ;jump to a6 if greater

a3: sub dl,30h ;subtract dl by 30

jmp a5 ;jump to a5

a6: sub dl,37h ;subtract dl by 37

jmp a5 ;jump to a5

a5: rol bl,04 ;rotate bl by 4

add bl,dl ;add contents bl and dl and store in bl

dec ch ;decrement ch

jnz a4 ;jump if not zero to label a4

ret ;return control of program flow

accept1 endp ;End accept1 procedure

;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

exit:mov ah,4ch ;To exit the program

int 21h

end