Batch : H10

**Roll** **No** : 23269

**Problem** **Statement** : Write assembly language program(ALP) to add array of N numbers stored in the memory.

**PROGRAM**:

dim equ 30

.model small

.stack 100h

.data

arr db dim dup(?)

msg1 db 13, 10, 'Enter element $'

msg2 db 13, 10, 'The elements are $'

msg3 db 13, 10, 'Enter size of array $'

msg4 db 13, 10, 'The addition of elements = $'

.code

mov ax, @data

mov ds, ax

lea dx, msg3

mov ah, 09h

int 21h

mov ah, 01h ;accept array size

int 21h

mov cl, al ;initialize counter

mov bl, cl

sub cl, 30h

lea si, arr ;load base address of array

l1:

lea dx, msg1

mov ah, 09h

int 21h

mov ah, 01h

int 21h

mov [si], al

inc si

loop l1 ;loop for accepting array elements

mov cx, bx

sub cx, 30h

lea si, arr

lea dx, msg2

mov ah, 09h

int 21h

l2:

mov dl, [si]

mov ah, 02h

int 21h

mov dl, 2ch

mov ah, 02h

int 21h

inc si

loop l2 ;loop for printing array elements

lea dx, msg4

mov ah, 09h

int 21h

lea si, arr

mov ax, 0h

mov cx, bx

sub cx, 30h

l3:

add al, [si]

sub al, 30h

inc si

loop l3 ;loop to calculate sum

aam ;to convert ascii result to valid bcd

add ax, 3030h

mov bl, al

mov dl, ah

mov ah, 02h

int 21h ;display tens place of result

mov dl, bl

mov ah, 02h ;display units place of result

int 21h

mov ah, 4ch ;terminate the program

int 21h

end

**OUTPUT:**



