CS401 – Assembly Language

Assignment No. 1

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Question no 1:

You are required to write an assembly language program to perform the following tasks:

a) Store the numeric part of your VUID in an array of numbers in memory.
b) Compute the sum of all the digits in your VUID and store it in memory.

Subtract each numeric digit of your VUID from the sum of all digits (computed in part b) and store it in a 2nd array

Solution:

- **Code:**

```
[org 0x0100]
jmp start

vuid db 2,3,0,4,2,4,9,7,7    ; VU ID digits
sum dw 0                     ; To store sum
result db 9                  ; Store result of subtraction

start:
   mov ax, 0
   mov si, 0
   mov cx, 9                 ; Loop counter for 9 digits

calculate_sum:
   mov al, [vuid + si]
   add ah, al
   inc si
   loop calculate_sum

   mov [sum], ah             ; Store final sum

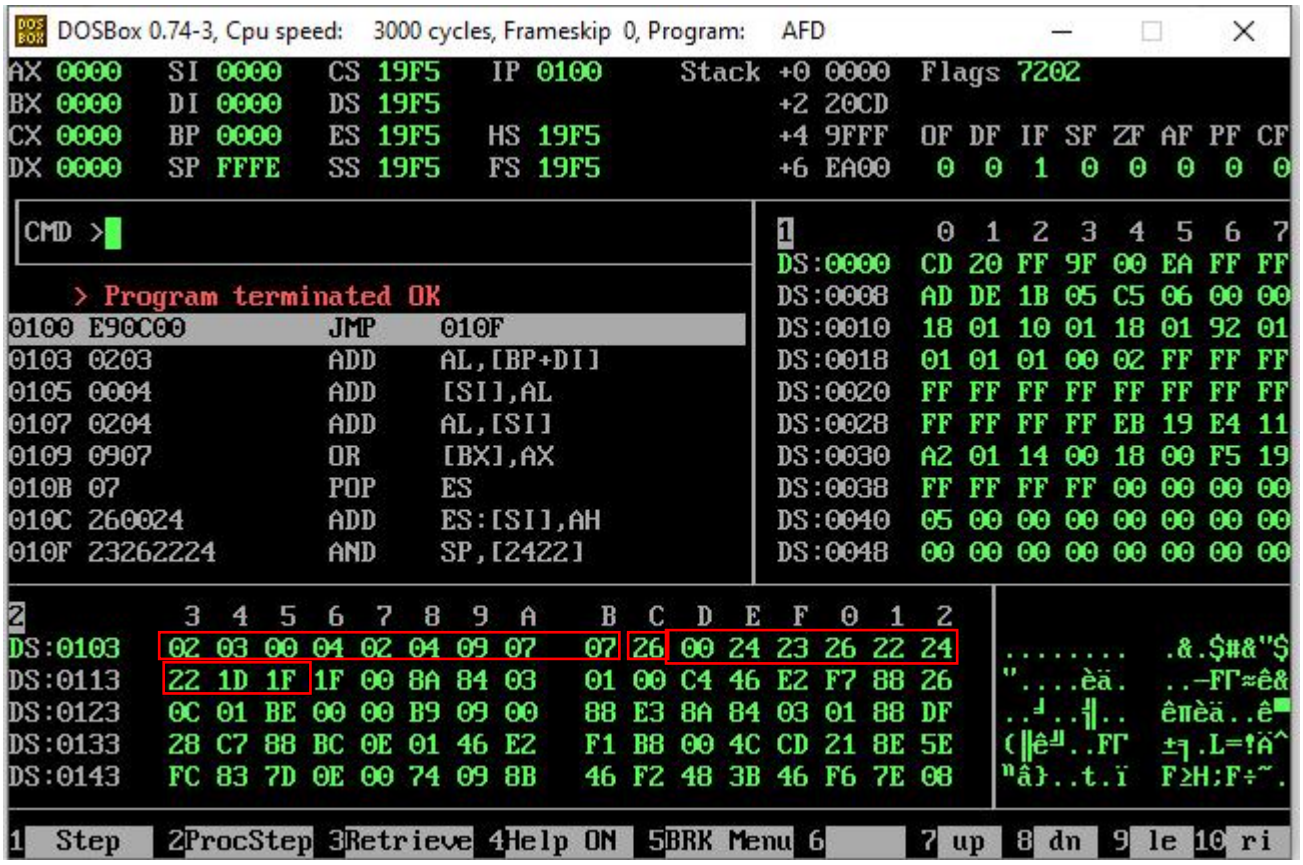
   mov si, 0
```

```
    mov cx, 9
    mov bl, ah                  ; Store total sum in BL

subtract_loop:
    mov al, [vuid + si]
    mov bh, bl
    sub bh, al
    mov [result + si], bh
    inc si
    loop subtract_loop

    mov ax, 4c00h
    int 21h
```

Screenshot:



https://whatsapp.com/channel/0029Vb4smybF6smx5admyo47