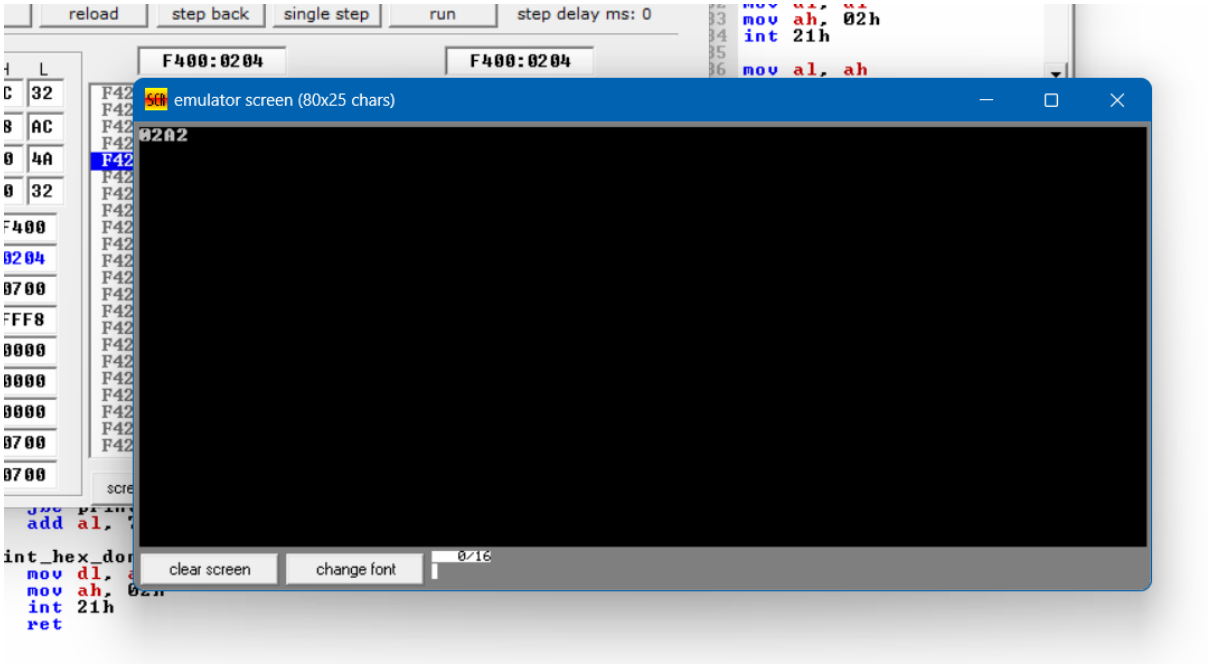
1. Write an assembly language program to perform addition of 8-bit data.

code

```
    org 100h
num1 dw 1234h
num2 dw 5678h
start:
mov ax, [num1]
add ax, [num2]
mov bx, ax
mov ah, 0
mov al, ah
call print_hex
mov al, bl
call print_hex
mov ah, 4Ch
int 21h
print_hex:
mov ah, al
and al, 0F0h
shr al, 4
add al, '0'
cmp al, '9'
jbe print_hex_low
add al, 7
print_hex_low:
mov dl, al
mov ah, 02h
int 21h
mov al, ah
and al, 0Fh
add al, '0'
cmp al, '9'
jbe print_hex_done
add al, 7
print_hex_done:
mov dl, al
mov ah, 02h
int 21h
```

ret



2. Write a program in assembly language to perform addition of 16-bit data.
org 100h

CODE

```
num1 dw 9ABCh
num2 dw 1DEFh

start:
    mov ax, [num1]
    add ax, [num2]

    mov bx, ax
    mov ah, 0

    mov al, ah
    call print_hex

    mov al, bl
    call print_hex

    mov ah, 4Ch
    int 21h

print_hex:
    mov ah, al
    and al, 0F0h
    shr al, 4
    add al, '0'
    cmp al, '9'
    jbe print_hex_low
    add al, 7

print_hex_low:
```

```
    mov dl, al
    mov ah, 02h
    int 21h

    mov al, ah
    and al, 0Fh
    add al, '0'
    cmp al, '9'
    jbe print_hex_done
    add al, 7

print_hex_done:
    mov dl, al
    mov ah, 02h
    int 21h
    ret
```