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  
retA screen shot of a computer

Description automatically generated

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  
  
  
  
A screenshot of a computer

Description automatically generated