Code: ADDITION AND SUBTRACTION OF TWO 8-BIT NUMBERS

data SEGMENT

a db ?

msg0 db 0dh,0ah,"NIYATI EXP3 $"

msg db 0dh,0ah,"Enter first number $"

msg1 db 0dh,0ah,"Enter second number $"

msg2 db 0dh,0ah,"The result of addition is $"

data ENDS

code SEGMENT

ASSUME cs:code,ds:data

start:

mov ax,data

mov ds,ax

mov dx,OFFSET msg0

mov ah,09h

int 21h

mov dx,OFFSET msg

mov ah,09h

int 21h

call input

mov a,bl

mov dx,OFFSET msg1

mov ah,09h

int 21h

call input

```asm
mov dx,OFFSET msg2

mov ah,09h

int 21h


mov cl,00h


add bl,a

JNC l3

inc cl


l3: mov dh,bl

    mov bl,cl

    and bl,0Fh

    call convert

    mov dl,bl

    mov ah,02h

    int 21h


    mov bl,dh

    and bl,0F0h

    ror bl,04h


    call convert

    mov dl,bl

    mov ah,02h

    int 21h


    mov bl,dh

    and bl,0Fh

    call convert
```

```asm
    mov dl,bl
    mov ah,02h
    int 21h

mov ah,4ch
int 21h

input proc
mov ah,01h
int 21h

call ascii2hex
mov bl,al
ror bl,4

mov ah,01h
int 21h
call ascii2hex
add bl,al
ret
endp

ascii2hex proc
cmp al,41h
jc num
sub al,07h
num: sub al,30h
ret
endp
```

```
convert proc
 cmp bl,0Ah
 jc l1
 add bl,37h
 jmp l2
    l1:add bl,30h
       l2:ret
ENDP

code ENDS
END start
```

Output:

For Addition

```
Assembling file:   exp2.asm
Error messages:    None
Warning messages:  None
Passes:            1
Remaining memory:  475k


C:\TASM>tLINK exp2.obj
Turbo Link  Version 2.0  Copyright (c) 1987, 1988 Borland International
Warning: no stack

C:\TASM>exp2.exe

NIYATI EXP3
Enter first number FF
Enter second number FF
The result of addition is 1FE
C:\TASM>exp2.exe

NIYATI EXP3
Enter first number 11
Enter second number 22
The result of addition is 033
C:\TASM>_
```

For Subtraction

```
C:\TASM>tLINK exp2.obj
Turbo Link  Version 2.0  Copyright (c) 1987, 1988 Borland International
Warning: no stack

C:\TASM>tasm exp2.asm
Turbo Assembler  Version 3.0  Copyright (c) 1988, 1991 Borland International

Assembling file:   exp2.asm
Error messages:    None
Warning messages:  None
Passes:            1
Remaining memory:  475k


C:\TASM>tLINK exp2.obj
Turbo Link  Version 2.0  Copyright (c) 1987, 1988 Borland International
Warning: no stack

C:\TASM>exp2.exe

NIYATI EXP3
Enter first number FF
Enter second number FF
The result of subtraction is 000
C:\TASM>_
```