

EXPERIMENT 6

Aim: Program for GCD and LCM using Procedures

GCD:

Code:

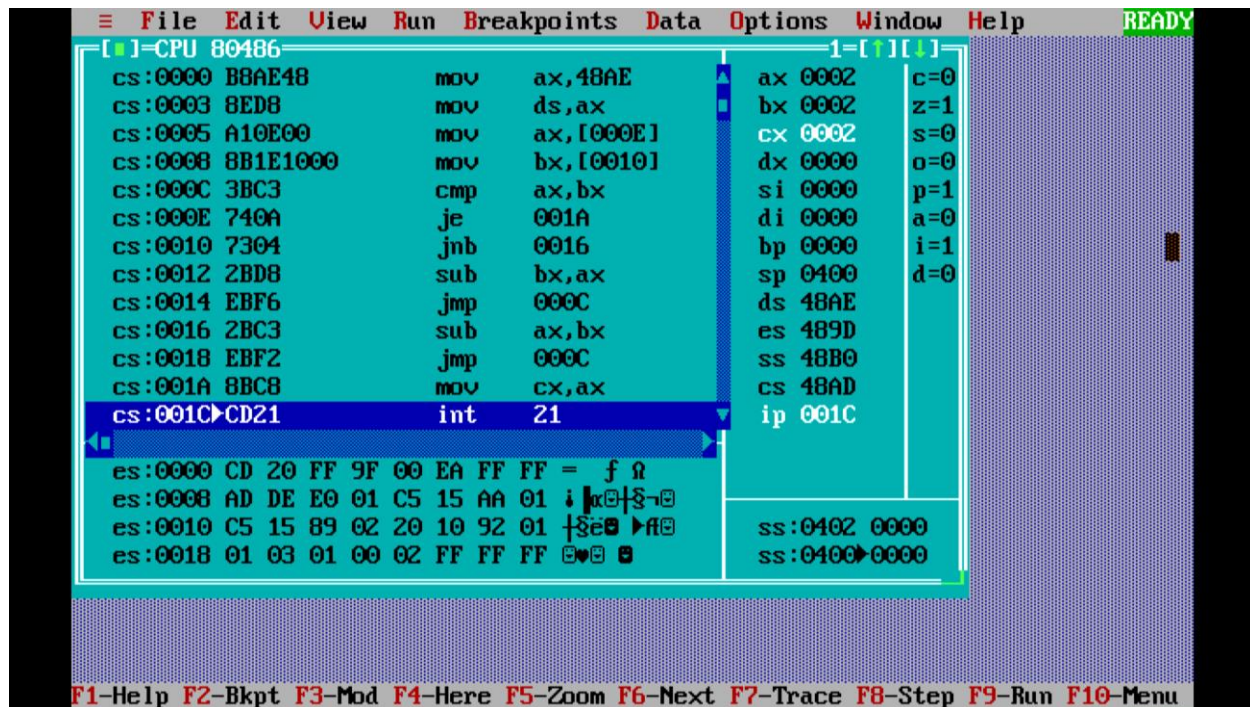
```
.MODEL SMALL
.STACK
.DATA
    NUM1 DW 0002h
    NUM2 DW 0008h

.CODE
MOV AX, @DATA
MOV DS, AX
MOV AX, NUM1
MOV BX, NUM2
CALL GCD

PROC GCD
    MOV CX,AX
    MOV DX,BX
    BACK: CMP CX, DX
    JE RESULT
    JNC AHEAD
    SUB DX, CX
    JMP BACK
    AHEAD: SUB CX, DX
    JMP BACK
    RESULT: MOV CX, CX
    RET
ENDP GCD

MOV AH,4CH
INT 21h
END
```

Output:



LCM:

Code:

```
.MODEL SMALL
.STACK
.DATA
NUM1 DW 0004h
NUM2 DW 0006h
LCM DW 01 DUP (?)
.CODE
MOV AX, @DATA
MOV DS, AX
MOV AX, NUM1
MOV BX, NUM2
CALL L

PROC L
    MOV CX, AX
    MOV DX, BX
BACK: CMP AX, BX
    JE RESULT
    JNC AHEAD
    ADD AX, CX
    JMP BACK
AHEAD: ADD BX, DX
    JMP BACK
```

RESULT: MOV CX, AX
ENDP L

MOV AH,4CH
INT 21h
END

Output:

```
[ ]=CPU 80486
cs:0010 3BC3      cmp     ax,bx
cs:0012 740A      je      001E
cs:0014 7304      jnb     001A
cs:0016 03C1      add     ax,cx
cs:0018 EBF6      jmp     0010
cs:001A 03DA      add     bx,dx
cs:001C EBF2      jmp     0010
cs:001E 8BC8      mov     cx,ax
cs:0020 CD21      int     21
cs:0022 0400      add     al,00
cs:0024 06        push    es
cs:0025 0000      add     [bx+si],al
cs:0027 0000      add     [bx+si],al

es:0000 CD 20 FF 9F 00 EA FF FF = f 0
es:0008 AD DE E0 01 C5 15 AA 01  i 00 8-0
es:0010 C5 15 89 02 20 10 92 01  +Se 0 0A0
es:0018 01 03 01 00 02 FF FF FF 0 0 0

ax 000C  c=0
bx 000C  z=1
cx 000C  s=0
dx 0006  o=0
si 0000  p=1
di 0000  a=0
bp 0000  i=1
sp 0400  d=0
ds 48AF
es 489D
ss 48B0
cs 48AD
ip 0020

ss:0402 0000
ss:0400 0000

F1-Help F2-Bkpt F3-Mod F4-Here F5-Zoom F6-Next F7-Trace F8-Step F9-Run F10-Menu
```

Conclusion: Thus, the program is executed successfully