LAB REPORT FOR EXP 3

COURSE TITLE : EEE 416

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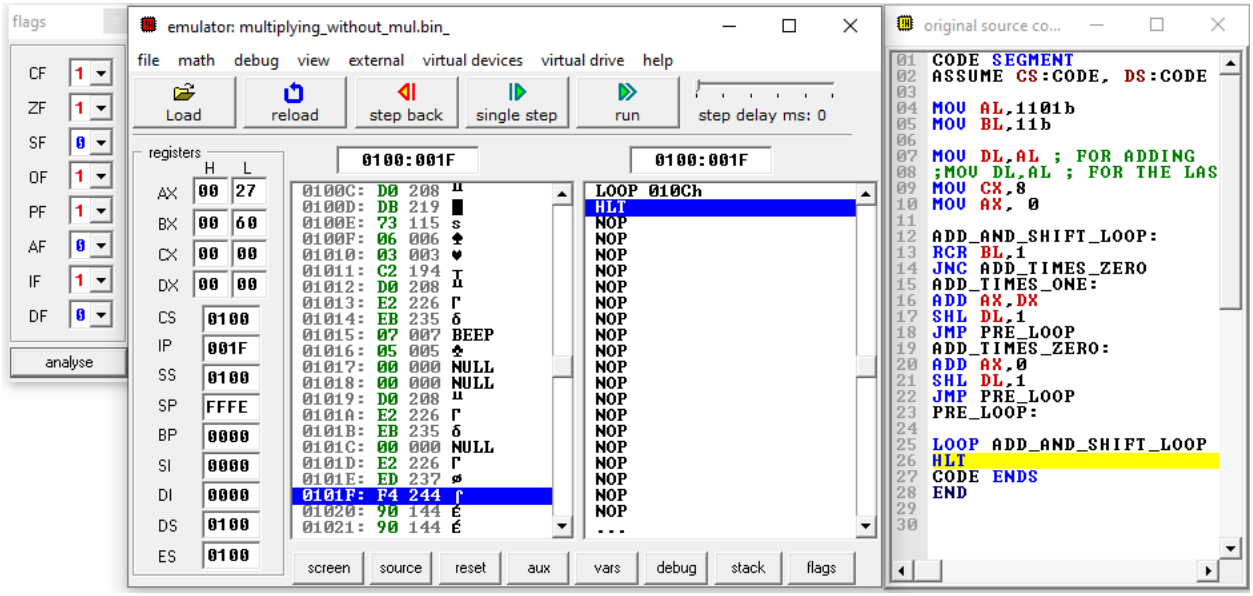
PROBLEM

CODE

```
CODE SEGMENT
 ASSUME CS:CODE, DS:CODE

 MOV AL,1101b
 MOV BL,11b

 MOV DL,AL ; FOR ADDING
 ;MOV DL,AL ; FOR THE LAST DIGIT LOOP
 MOV CX,8
 MOV AX, 0

ADD_AND_SHIFT_LOOP:
 RCR BL,1
 JNC ADD_TIMES_ZERO
ADD_TIMES_ONE:
 ADD AX,DX
 SHL DL,1
 JMP PRE_LOOP
ADD_TIMES_ZERO:
 ADD AX,0
 SHL DL,1
 JMP PRE_LOOP
PRE_LOOP:

LOOP ADD_AND_SHIFT_LOOP
 HLT
CODE ENDS
 END
```

OUTPUT

Here, The input of 1101 and 11 was considered as the two numbers we must multiply.



The Following multiplication was carried out

1101

x 11

1101

110110

100111

In Hexadecimal format, the multiplication output should be 27 h,

As seen in our output, the multiplication out is 27h, leading to the conclusion that the code simulation is valid.

EXPERIMENT 3 LAB TASK 1

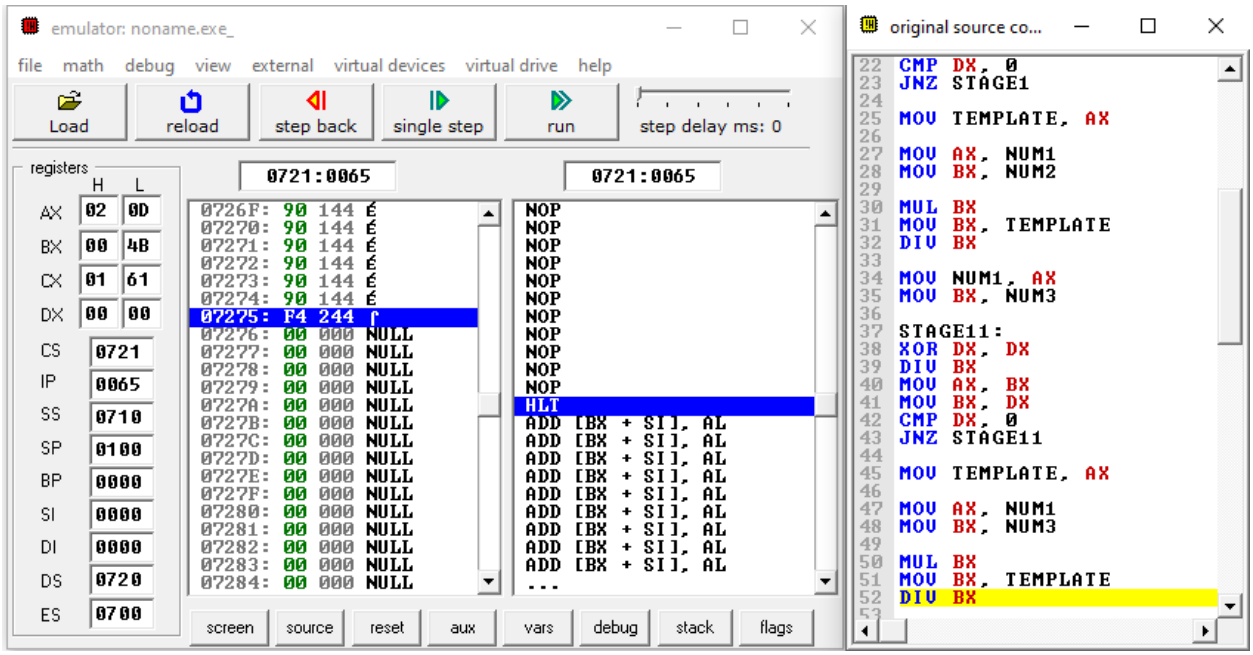
TASKS

Find the LCM of three given numbers (0Fh, 4Bh, 20Dh)

CODE

```
.model small
.stack 100h
.data

NUM1 dw 0Fh
NUM2 dw 4Bh
NUM3 dw 20Dh
TEMPLATE dw ?

.code
MAIN PROC
    MOV AX,@data
    MOV DS,AX
    MOV AX, NUM1
    MOV BX, NUM2

STAGE1:
    XOR DX, DX
    DIV BX
    MOV AX, BX
    MOV BX, DX
    CMP DX, 0
    JNZ STAGE1

    MOV TEMPLATE, AX

    MOV AX, NUM1
    MOV BX, NUM2
    MUL BX
    MOV BX, TEMPLATE
    DIV BX
    MOV NUM1, AX
    MOV BX, NUM3

STAGE11:
    XOR DX, DX
    DIV BX
    MOV AX, BX
    MOV BX, DX
    CMP DX, 0
    JNZ STAGE11

    MOV TEMPLATE, AX

    MOV AX, NUM1
    MOV BX, NUM3

    MUL BX
    MOV BX, TEMPLATE
    DIV BX
END
```

OUTPUT



As it can be seen from the output of the simulation, the LCM of the three number came out to be 20Dh.

This can also be seen on manual examination of the system.

The numbers,on conversion to decimal numbers , become

15, 75,525.

Since 525 is a direct multiple for both 15 and 75, and it can be obtained through multiplying itself with 1, 525 will be the actual LCM of the three numbers.

In our process we, determined the GCF at first, and then from GCF we determined the LCM.