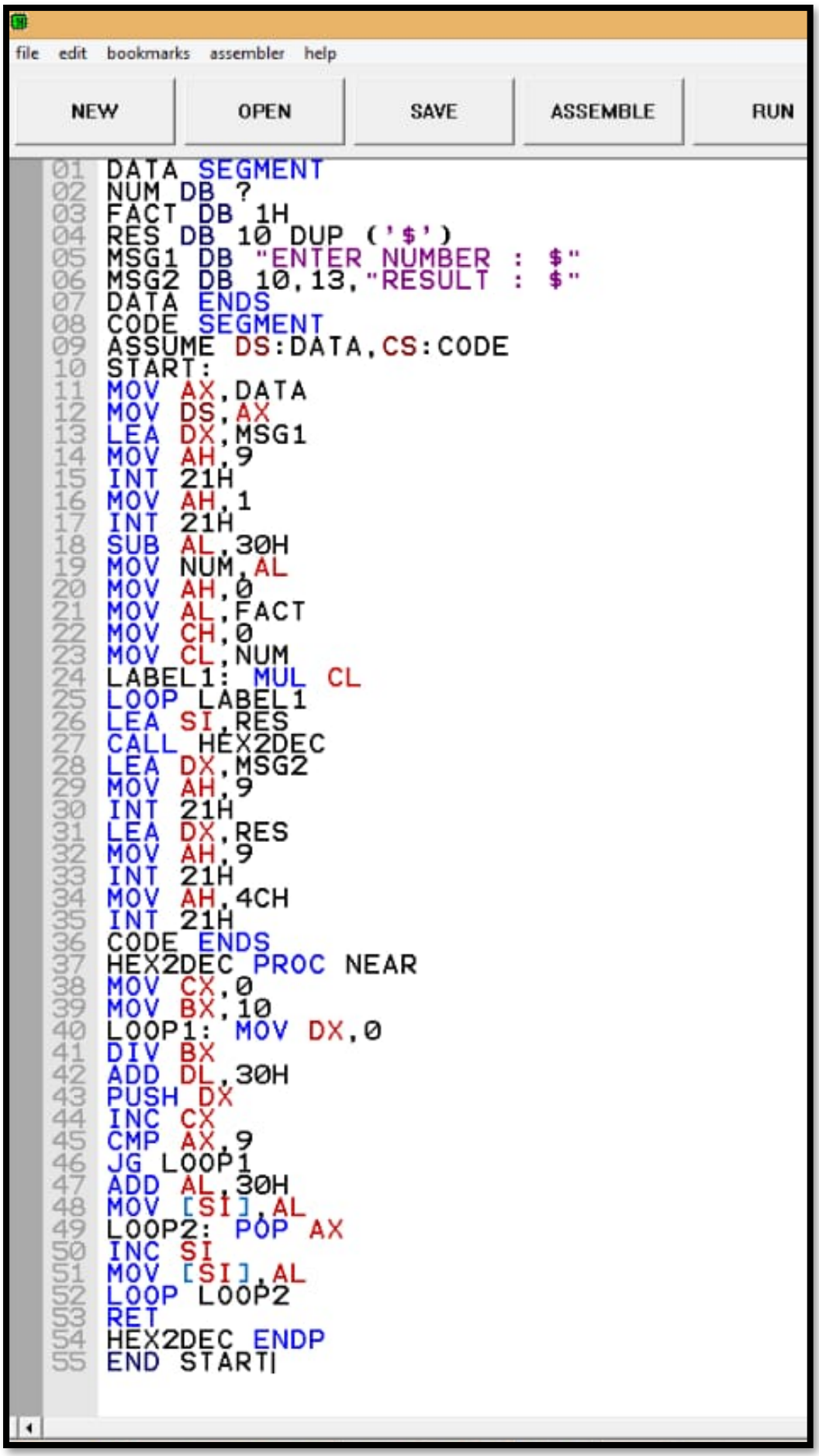
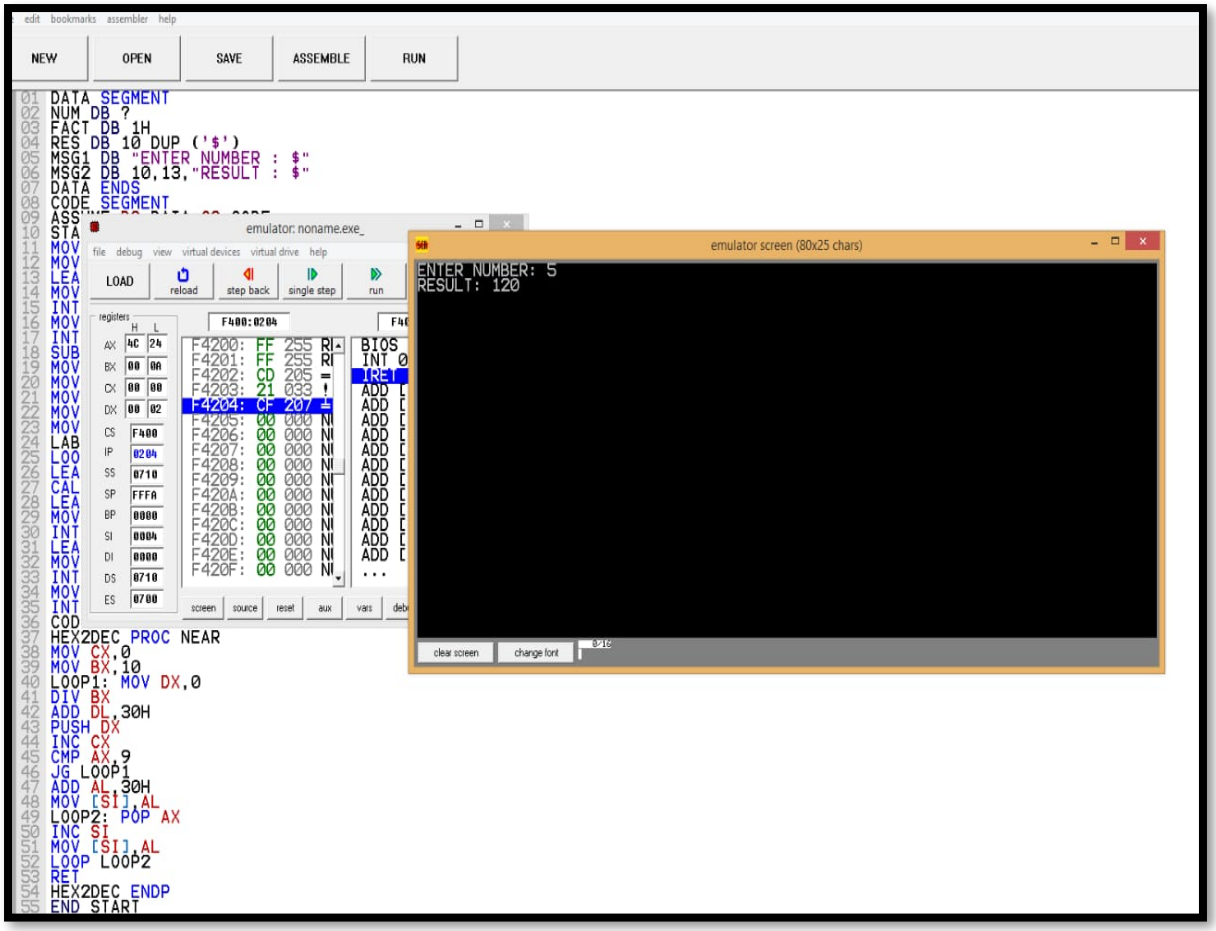
Experiment 4

find factorial

a) Accept number from keyboard
b) find factorial of the number [find maximum limit of number of which factorial can be found through 16 bit operations]
c) Display result on screen [Display result of factorial in decimal form on output display]




```
01 DATA SEGMENT
02 NUM DB ?
03 FACT DB 1H
04 RES DB 10 DUP ('$')
05 MSG1 DB "ENTER NUMBER : $"
06 MSG2 DB 10,13,"RESULT : $"
07 DATA ENDS
08 CODE SEGMENT
09 ASSUME DS:DATA,CS:CODE
10 START:
11 MOV AX,DATA
12 MOV DS,AX
13 LEA DX,MSG1
14 MOV AH,9
15 INT 21H
16 MOV AH,1
17 INT 21H
18 SUB AL,30H
19 MOV NUM,AL
20 MOV AH,0
21 MOV AL,FACT
22 MOV CH,0
23 MOV CL,NUM
24 LABEL1: MUL CL
25 LOOP LABEL1
26 LEA SI,RES
27 CALL HEX2DEC
28 LEA DX,MSG2
29 MOV AH,9
30 INT 21H
31 LEA DX,RES
32 MOV AH,9
33 INT 21H
34 MOV AH,4CH
35 INT 21H
36 CODE ENDS
37 HEX2DEC PROC NEAR
38 MOV CX,0
39 MOV BX,10
40 LOOP1: MOV DX,0
41 DIV BX
42 ADD DL,30H
43 PUSH DX
44 INC CX
45 CMP AX,9
46 JG LOOP1
47 ADD AL,30H
48 MOV [SI],AL
49 LOOP2: POP AX
50 INC SI
51 MOV [SI],AL
52 LOOP LOOP2
53 RET
54 HEX2DEC ENDP
55 END START
```




```
DATA SEGMENT
NUM DB ?
FACT DB 1H
RES DB 10 DUP ('$')
MSG1 DB "ENTER NUMBER : $"
MSG2 DB 10,13,"RESULT : $"
DATA ENDS
CODE SEGMENT
ASS
STA
MOV
MOV
LEA
MOV
INT
MOV
INT
SUB
MOV
MOV
MOV
MOV
MOV
LAB
LOO
LEA
CAL
LEA
MOV
INT
LEA
MOV
INT
MOV
INT
COD
HEX2DEC PROC NEAR
MOV CX,0
MOV BX,10
LOOP1: MOV DX,0
DIV BX
ADD DL,30H
PUSH DX
INC CX
CMP AX,9
JG LOOP1
ADD AL,30H
MOV [SI],AL
LOOP2: POP AX
INC SI
MOV [SI],AL
LOOP LOOP2
RET
HEX2DEC ENDP
END START
```