



American International University- Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)
Spring 22-23

Stack Lab Assignment

Zuhair Ahmed

ID: 20-42115-1

**COMPUTER ORGANIZATION AND
ARCHITECTURE**

Section: B

Course Teacher:

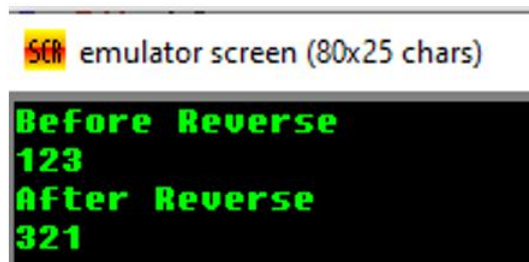
SAEEDA SHARMEEN RAHMAN

Lab Tasks

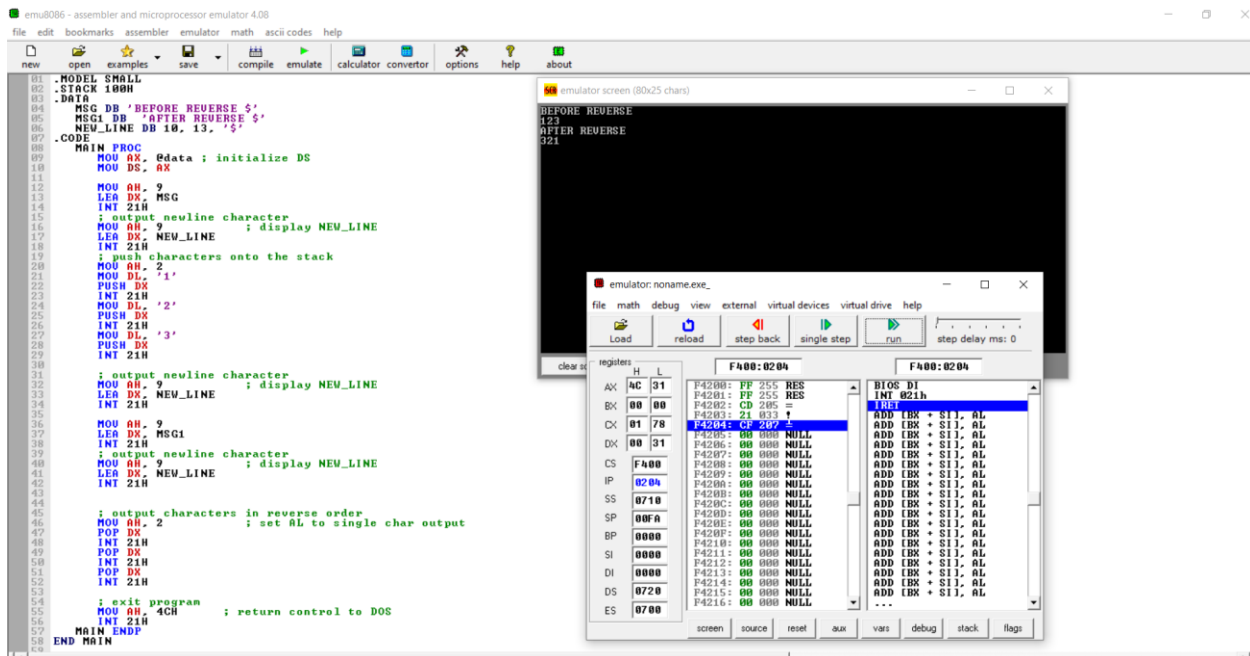
Task: 3



- Reverse three characters 123, output should look like as follows:
Hints, use the concept of push and pop.



Answer:



Lab Tasks

Task: 4



- Take a string from user. Once user hits enters reverse the string given by the user. Must take input from user. Hints: Use the concept of push and pop.

```
?234abcd
dcba432
```

Answer:

```
emu8086 - assembler and microprocessor emulator 4.08
file edit bookmarks assembler emulator math ascii codes help
new open examples save compile emulate calculator convertor options help about

01 .MODEL SMALL
02 .STACK 100H
03 .DATA
04     NEW_LINE DB 10, 13, '$'
05
06 .CODE
07 MAIN PROC
08     MOV AX, Pdata    ; initialize DS
09     MOV DS, AX
10
11
12     MOV AH, 1        ; set AH to char input
13     MOV DX, 0        ; put 0 in DX
14     MOV CX, 0        ; size of string
15
16 INPUT:
17     INT 21H          ; put AL in DL
18     MOV DL, AL        ; increase size of the string
19     INC CX
20     PUSH DX          ; push DL into DX
21     CMP DL, 13       ; check the input
22     JNE INPUT
23
24     MOV AH, 9        ; display NEW_LINE
25     LEA DX, NEW_LINE
26     INT 21H
27     MOV AH, 2        ; set AL to single char output
28
29 OUTPUT:
30     POP DX            ; pop DX (and put the top element in DL)
31     INT 21H          ; display DL
32     LOOP OUTPUT
33
34 EXIT:
35     MOV AH, 4CH       ; return control to DOS
36     INT 21H
37 MAIN ENDP
38 END MAIN
```