



AR101 – COMPUTER ORGANIZATION AND ARCHITECTURE
LABORATORY ACTIVITY 4

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YEAR/SECTION: SBIT-3E
DATE:

SCORE	PERCENTAGE

- Objectives:
- 1. Know the PUSH and POP functions.
 - 2. Knowing the stack process

- Directions:
- 1. This is an INDIVIDUAL ACTIVITY.
 - 2. Every member should have an emu8086 application in their computer.
 - 3. Once the group are done doing the activity, SAVE the program (filename: **SURNAME_FIRSTNAME-LAB4**).
 - 4. Convert the .doc/.docx file into PDF.
 - 5. Upload the program and the PDF file and click TURNIN.

ACTIVITY:

Using emu8086, create a PUSH and POP program and list down the final output shown in the registers, stacks and flags.

Give the segments:

registers

	H	L
AX	4C	02
BX	03	04
CX	01	A9
DX	00	00
CS	F400	
IP	0204	
SS	0710	
SP	00FA	
BP	0000	
SI	0000	
DI	0000	
DS	0720	
ES	0700	

stack

0710:0124	5550
0710:0122	2073
0710:0120	6575
0710:011E	6C61
0710:011C	5624
0710:011A	0A0D
0710:0118	6834
0710:0116	3033
0710:0114	303D
0710:0112	5842
0710:0110	202C
0710:010E	6832
0710:010C	3031
0710:010A	303D
0710:0108	5841
0710:0106	206C
0710:0104	6169
0710:0102	7469
0710:0100	6E49
0710:00FE	0202
0710:00FC	0729
0710:00FA	0019 <
0710:00F8	5454
0710:00F6	5454
0710:00F4	5454
0710:00F2	5454
0710:00F0	5454
0710:00EE	5454
0710:00EC	5454
0710:00EA	5454
0710:00E8	5454
0710:00E6	5454
0710:00E4	5454
0710:00E2	5454
0710:00E0	5454
0710:00DE	5454

flags

CF	0
ZF	0
SF	0
OF	0
PF	0
AF	0
IF	1
DF	0

analyse



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01 .model small
02 .stack 100h
03
04 .data
05 msg_start DB 'Initial AX=0102h, BX=0304h', 0dh, 0ah, '$'
06 msg_push DB 'Values PUSHed onto stack.', 0dh, 0ah, '$'
07 msg_mod DB 'Registers modified (AX and BX set to 0).', 0dh, 0ah, '$'
08 msg_pop DB 'Values POPed back from stack (LIFO).', 0dh, 0ah, '$'
09
10 .code
11 main proc
12
13     mov ax, @data
14     mov ds, ax
15
16     mov ax, 0102h
17     mov bx, 0304h
18
19     push ax
20     push bx
21
22     mov ax, 0000h
23     mov bx, 0000h
24
25     pop bx
26     pop ax
27
28     mov ah, 4ch
29     int 21h
30 main endp
31 end main
32
```



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"Honesty is the fastest way to prevent a mistake from turning into a failure."
by James Altucher