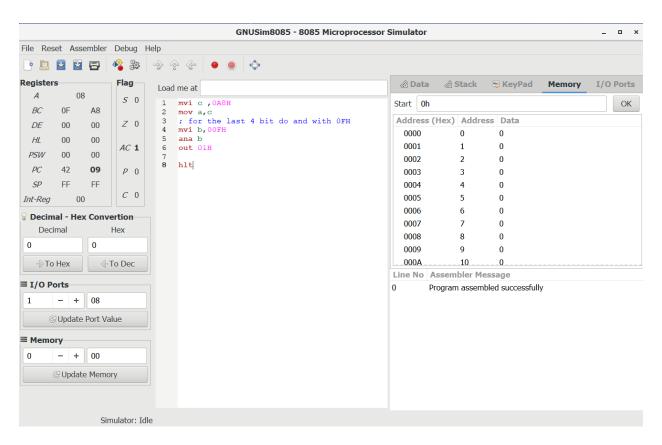
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Lab: Assignment-4

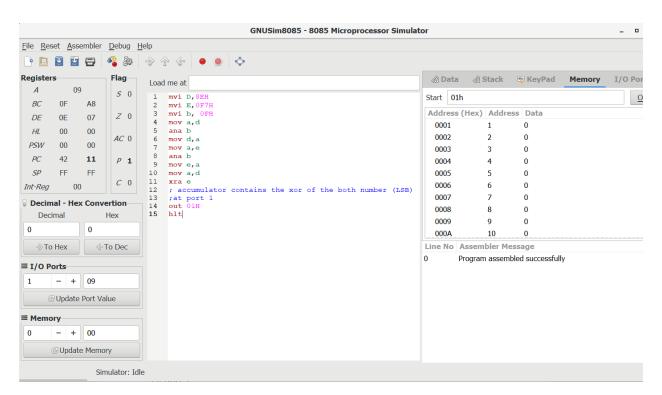
1 Write a program to load the data byte A8H in register C. Mask the high-order bits(D7-D4), And display the low-order bits (D3-D0) at an output port. Code:-

mvi c ,0A8H mov a,c ; for the last 4 bit do and with 0FH mvi b,00FH ana b out 01H hlt



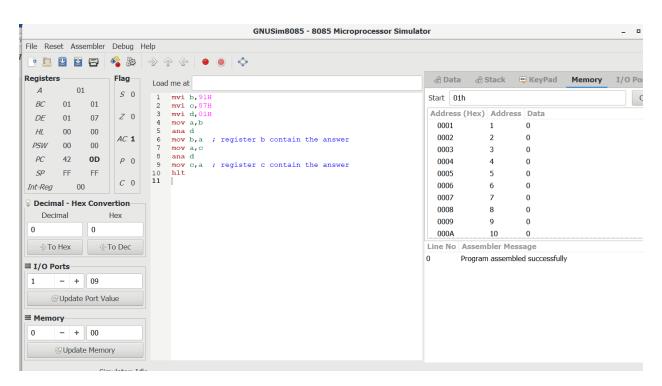
2 Write a program to load the data byte 8EH in register D and F7H in register E.Mask the high-order bits (D7-D4) from both the data bytes, Exclusive-OR the low-order bits (D3-D0) and display the answer. Code:-

```
mvi D,8EH
mvi E,0F7H
mvi b, 0FH
mov a,d
ana b
mov d,a
mov a,e
ana b
mov e,a
mov a,d
xra e ; accumulator contains the xor of the both number (LSB)
;at port 1
out 01H
hlt
```



3 Write a program to load the bit pattern 91H in register B and 87H in register C. Mask all the bits except D0 from registers B and C. Code:-

```
mvi b,91H
mvi c,87H
mvi d,01H
mov a,b
ana d
mov b,a ; register b contain the answer
mov a,c
ana d
mov c,a ; register c contain the answer
hlt
```



4 Write a program to clear the CY flag, to load number FFH in register B, and increment B. If the CY flag is set, display 01 at the output port, otherwise, display the contents of register B.

xra a ;clear the cy flag mvi b,0FFH

inr b ;it doesn't affect CY flag

jnc show; if carry then show 01H

mvi a,01H

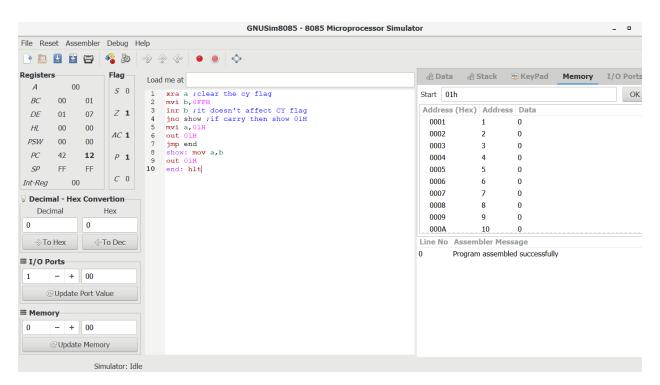
out 01H

Code:-

jmp end

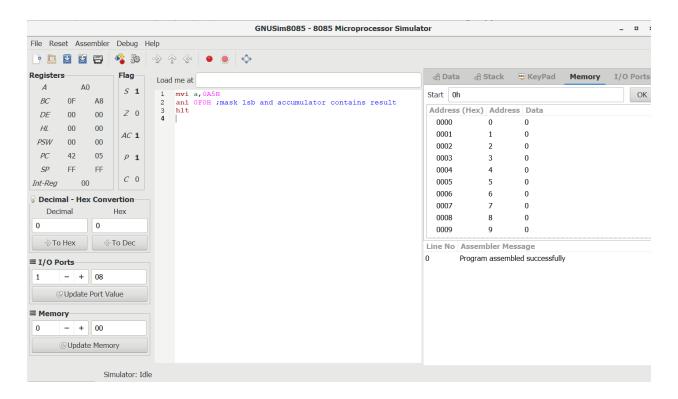
show: mov a,b

out 01H end: hlt



5 Write a program to mask lower bit of an 8 bit number. Code:-

mvi a,0A5H ani 0F0H ;mask lsb and accumulator contains result hlt



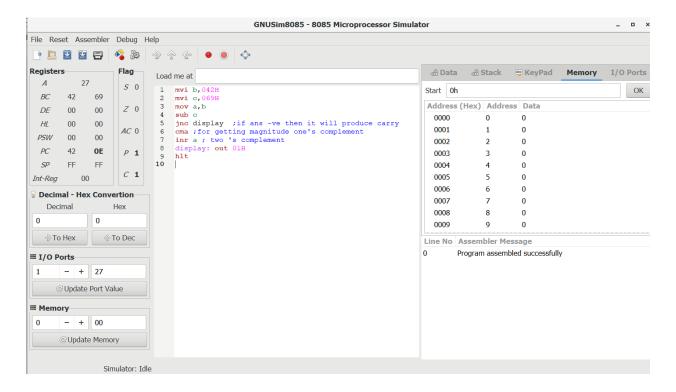
6 Write a program Load two unsigned numbers in register B and register C respectively. Subtract C from B. If the result is in 2's complement, convert the result in absolute magnitude And display it at PORT 1, otherwise, display the positive result. Execute the program.

Code:-

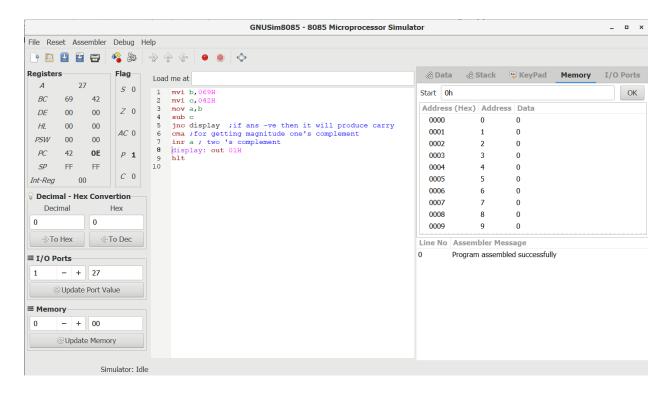
mvi b,042H
mvi c,069H
mov a,b
sub c
jnc display ;if ans -ve then it will produce carry
cma ;for getting magnitude one's complement
inr a ; two 's complement
display: out 01H
hlt

Output:-

A. For Set1:B=42H,C=69H



B. Set2:B=69H,C=42H



C. Set 3: B=F8H,C = 23H

