MIT Tutorial 2

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Q1

2:

a   SP = ~~0010 H~~   0400 H

b   First Data Byte = ~~0010H   0001 H~~
    $\frac{0400H - 0001H}{}$
    = ~~003FH~~   0.3FFH

c   (03FEH) = FF

d   SP = 03FBH   (03FDH) = 20 H

e   (HL) = 2055H
    This is ~~assming~~ assuming that there are
    no stack operations from line
    8 to 19.

3:

20 C8	
20C9	0 0
20 CA	0F
20CB	08
20 CC	00
20CD	X

a   20CCH : 60 H
20 CBH : 08 H
PC   : 200BH
SP   : 20CDH

b   20 C9   00
20CA   OF
20 CB   08
20CC   60
20 CD   X

c   SP = 20 C9H.

d   SP = 20 CDH.

8: lxi SP, 0099H ; load stack pointer
lxi H, 0090H ; clearing data from 0090
lxi D, 0001H ; to 009FH
mvi C, 10H ; loop counter
mvi A, 00H
loop: nop
mov M, A
dad D   ; next location
dcr C
jnz Loop
; load data
lxi B, 0237H
lxi D, 1242H
lxi H, 4087H

```
; push data
push B
push D
push H
hlt

9:    ; clear flags
Lxi SP, 0040H
Lxi B, 0000H
push B
pop PSW

; increment using adi
mvi A, 00FFH
adi 01H
; move PSW to BC
push PSW
pop B
; mask C flag
mvi A, 01H
ana C
; port 0
Out 00H.

; increment using adi
mvi A, 00FFH
inr A
; move PSW to BC
push PSW
pop B
```

```
; mask C flag
mvi   A, 01H
ana   C
; port 1
Out 01H
```

Using ADI sets the carry flag on overflow while INR doesn't set the carry flag

Q2

```
; set SP
Lxi   SP, 9000 H
mvi   B, 45H
push  PSW
push  B
pop   PSW   ; swap.
pop   B
hlt
```