MCU priciple practice 2

▸ Question 3-1

```
MOV  A , 40H  ; (40H) → A    #(A)= 48H  the value of A
MOV  R0, A    ; (A) → R0     #(R0)=48H
MOV  P1 , #0F0H ; 0F0H → P1  # (P1) = 0F0H
MOV  @R0, 30H ; (30H) → (R0) # R0 = 48H
                 38H
                 |           (48H) = 38H

MOV DPTR, #3848H ; 3848H → DPTR
MOV 40H , 38H    ; (38H) → 40H #  (40H) = 40H
MOV R0 , 30H     ; (30H) → R0 # R0 = 38H
MOV P0 , R0      ;  R0 → P0 # P0 = 38H

MOV 18H, #30H    ;  30H → 18H # (18H) = 30H
MOV A , @R0      ; ((R0)) → A # A = 40H
MOV P2, P1       ;  (P1) → P2 # P2 = 0F0H
```

- the status of the register and memory is as follows

A = 40H
R0 = 38H
P0 = 38H
P1 = 0F0H
P2 = 0F0H
(18H) = 30H
(30H) = 38H
(38H) = 40H
(40H) = 40H
(48H) = 38H

► Question 3-2

R0 = 32H A = 48H (32H) = 80H

(40H) = 08H

```
MOV  A , @R0     ; ((R0)) → A , A = 80H
MOV  @R0, 40H    ; (40H) → (R0) , (32H) = 08H
MOV  40H , A     ; (A) → 40H , (40H) = 80H
MOV  R0 , #35H   ; 35H → R0 , R0 = 35H
```

List of memory

A = 80H , R0 = 35H , (32H) = 08H , (40H) = 80H

▷ Question 3-3

(A) = 83H (R0) = 17H (17H) = 34H

```
ANL  A, #17H ;  17H & (83H → (A)
             ;  1000 0011 & 0001 0111 = 03H
             ;  (A) = 03H
ORL  17H, A  ;  (A) | (17H) → (17H)
             ;  0011 0100 | 0000 0011 = 37H
             ;  (17H) = 37H
XRL  A , @R0 ;  ((R0)) ⊕ (A) → A
             ;  37H ⊕ 03H ⇐⇒
             ;  0011 0111 ⊕ 0000 0011 = 34H
             ;  (A) = 34H
CPL  A       ;  A = 34H = 0011 0100
                !A = 1100 1011 = CBH
```

⇒ A = CBH