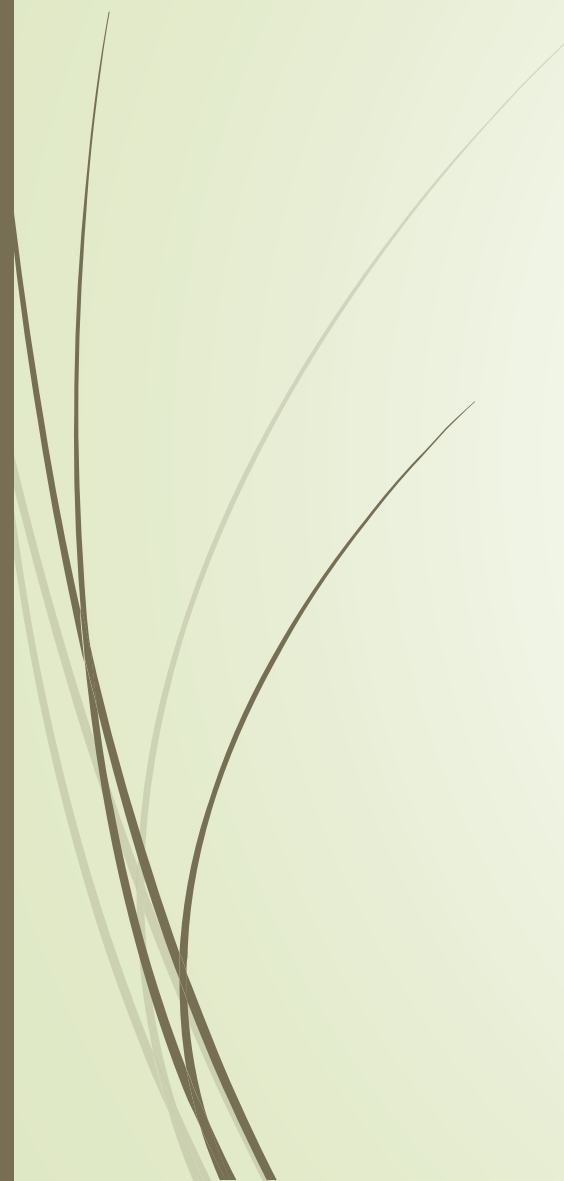



# 8051實習




Assume that register A has packed BCD, write a program to convert packed BCD to two ASCII numbers and place them in R2 and R6.

```
MOV    A, #29H    ;A=29H, packed BCD
MOV    R2, A      ;keep a copy of BCD data
ANL    A, #0FH    ;mask the upper nibble (A=09)
ORL    A, #30H    ;make it an ASCII, A=39H('9')
MOV    R6, A      ;save it
MOV    A, R2      ;A=29H, get the original
data
ANL    A, #0F0H   ;mask the lower nibble
RR     A          ;rotate right
RR     A          ;rotate right
RR     A          ;rotate right
RR     A          ;rotate right
ORL    A, #30H    ;A=32H, ASCII char. '2'
MOV    R2, A      ;save ASCII char in R2
```



| <b>Key</b> | <b>ASCII (hex)</b> | <b>Binary</b> | <b>BCD (unpacked)</b> |
|------------|--------------------|---------------|-----------------------|
| 0          | 30                 | 011 0000      | 0000 0000             |
| 1          | 31                 | 011 0001      | 0000 0001             |
| 2          | 32                 | 011 0010      | 0000 0010             |
| 3          | 33                 | 011 0011      | 0000 0011             |
| 4          | 34                 | 011 0100      | 0000 0100             |
| 5          | 35                 | 011 0101      | 0000 0101             |
| 6          | 36                 | 011 0110      | 0000 0110             |
| 7          | 37                 | 011 0111      | 0000 0111             |
| 8          | 38                 | 011 1000      | 0000 1000             |
| 9          | 39                 | 011 1001      | 0000 1001             |



# 練習

- ▶ 參考題目，將72H放入累加器，回答R2與R6的值