```
; Q 1>
;    a>  Addition of 2 16bit BCD numbers with carry
     SW       2000h
              [2000h]      =    0999h        ; A = 999 in BCD
              [2002h]      =    0001h        ; B = 1 in BCD
              [2004h]      =    (ans)        ; C = (A + B) in BCD
              .

     A
     1000h
         mov      ax, [2000h]
         mov      bx, [2002h]
         add      bx, ax
         mov      al, bl
         daa
         adc      bh, 00h
         mov      bl, al
         mov      al, bh
         daa
         mov      bh, al
         mov      [2004h], bx
         hlt
         .

     GO       1000h
     INT                                    ; (try '.' here)

     SW       2004h                         ; ans = 1000h
     .                                      ; => 1000 in BCD



;    b>  Addition of 2 32bit numbers
     SW       2000h
              [2000h]      =    4B20h        ; A = 12340000
              [2002h]      =    00BCh        ;
              [2004h]      =    162Eh        ; B = 5678
              [2006h]      =    0000h        ;
              [2008h]      =    (ans)        ; C = (A + B)
              [200Ah]      =    (ans)        ;
              .

     A
     1000h
         mov      ax, [2000h]
         mov      bx, [2002h]
         add      ax, [2004h]
         adc      bx, [2006h]
         mov      [2008h], ax
         mov      [200Ah], bx
         hlt
         .
```

```
    GO      1000h
    INT                     ;(try '.' here)

    SW      2008h                       ; ans = 614Eh
    SW      200Ah                       ; ans = 00BCh
    .                                   ; => 12345678



;   c>  Addition of 2 signed 32bit numbers
    SW      2000h
            [2000h]     =   614Eh       ; A = 12345678
            [2002h]     =   00BCh       ;
            [2004h]     =   0E9D2h      ; B = -5678
            [2006h]     =   0FFFFh      ;
            [2008h]     =   (ans)       ; C = (A + B)
            [200Ah]     =   (ans)       ;
            .

    A
    1000h
        mov     ax, [2000h]
        mov     bx, [2002h]
        add     ax, [2004h]
        adc     bx, [2006h]
        mov     [2008h], ax
        mov     [200Ah], bx
        hlt
        .

    GO      1000h
    INT                     ;(try '.' here)

    SW      2008h                       ; ans = 4B20h
    SW      200Ah                       ; ans = 00BCh
    .                                   ; => 12340000
```