```
; Q 2>
;    a>  Subtraction of 2 32bit BCD numbers
     SW       2000h
              [2000h]      =    614Eh        ; A = 12345678
              [2002h]      =    00BCh        ;
              [2004h]      =    162Eh        ; B = 5678
              [2006h]      =    0000h        ;
              [2008h]      =    (ans)        ; C = (A - B)
              [200Ah]      =    (ans)        ;
              .

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

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

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



;    b>  Multiplication of 2 16bit numbers
     SW       2000h
              [2000h]      =    03E8h        ; A = 1000
              [2002h]      =    000Ah        ; B = 10
              [2004h]      =    (ans)        ; C = (A * B)
              [2006h]      =    (ans)        ;
              .

     A
     1000h
         mov      ax, [2000h]
         mov      bx, [2002h]
         mul      bx
         mov      [2004h], ax
         mov      [2006h], dx
         hlt
         .

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

     SW       2004h                        ; ans = 2710h
```

```
    SW      2006h                       ; ans = 0000h
    .                                   ; => 10000



;   c>  Addition of 8bit signed and unsigned numbers using a loop
;       with the array starting at some specified memory location
    SB      2002h                   ; Unsigned Array A[]
            [2002h]     =   05h     ; A.length = 5
            [2003h]     =   00h     ;
            [2004h]     =   0Ah     ; A[0] = 10
            [2005h]     =   0Ah     ; A[1] = 10
            [2006h]     =   0Ah     ; A[2] = 10
            [2007h]     =   0Ah     ; A[3] = 10
            [2008h]     =   0Ch     ; A[4] = 12
            [2009h]     =   (ans)   ; C = sum(A)
            .
    SB      200Ah                   ; Signed Array B[]
            [200Ah]     =   004h    ; B.length = 4
            [200Bh]     =   000h    ;
            [200Ch]     =   00Ah    ; A[0] = 10
            [200Dh]     =   0F7h    ; A[1] = -9
            [200Eh]     =   00Ah    ; A[2] = 10
            [200Fh]     =   0F7h    ; A[3] = -9
            [2010h]     =   (ans)   ; C = sum(A)
            .

    A
    1000h
        mov     al, 00h
        mov     si, [2000h]
        mov     cx, [si]
        add     si, 0002h
        loop_label:                 ; Note the address here
        add     al, [si]
        inc     si
        dec     cx
        jnz     loop_label          ; Use that address here
        mov     [si], al
        hlt
        .

    ; Case-1 Unsigned Numbers
    SW      2000h
            [2000h]     =   2002h   ; Pointer to Unsigned Array A[]
    .
    GO      1000h
    INT                     ;(try '.' here)

    SB      2009h                       ; ans = 34h
    .                                   ; => 52

    ; Case-2 Signed Numbers
```

```
SW      2000h
        [2000h]     =   200Ah   ; Pointer to Signed Array B[]
.
GO      1000h
INT                     ;(try '.' here)

SB      2010h                       ; ans = 02h
.                                   ; => 2
```