

組別 45

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Use MOVSD to delete the first element of the following doubleword array.  
All subsequent array values must be moved one position forward toward the beginning of the array:

**array DWORD 1,1,2,3,4,5,6,7,8,9,10**

.data

array DWORD 1,1,2,3,4,5,6,7,8,9,10

.code

cld

```
mov ecx, LENGTHOF array    ; set REP counter
mov esi, OFFSET array      ; source
mov edi, OFFSET array + 4   ; destination
rep movsd                  ; do the move
mov [edi], 0                ; modify the last element
```

(1) Write a program that converts each unpacked binary-coded decimal byte belonging to an array (array) into an ASCII decimal byte and copies it to a new array (dest).

.data

array BYTE 1,2,3,4,5,6,7,8,9

dest BYTE (LENGTHOF array) DUP(?)

```
mov esi, OFFSET array
mov edi, OFFSET array
mov ecx, LENGTHOF array    ; set loop counter
cld
L1: lodsb                  ; load into AL
    or al,30h              ; convert to ASCII
    stosb                  ; store into memory
    loop L1
```

(2) Suppose a two-dimensional array of double-words has 5 logical rows and 6 logical columns. If ESI is used as the row index, what value is added to ESI to move from one row to the next?

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(3) Should we use EBP to address an array?

No. EBP should be reserved as a base pointer for the current procedure's stack frame.