chapter.12 Instruction Sets : Characteristics & Functions

CISC (Complex instruction set Computer)

RISC (Reduce instruction set Computer)

Instruction Types
- Data Processing
- Data Storage
- Control
- Data movement

Types of Operand
- Address
- Numbers
- Characters
- Logical data

SIMD (Single instruction, multiple data)
  A = B × C
  [°] [←] [+]

**Data bytes
in memory
(ascending address values
from byte 0 to byte 3)**

| Byte 3 |
| Byte 2 |
| Byte 1 |
| Byte 0 |

Little endian
낮은 주소부터 읽는 방법

Big endian

31   0

| Byte 3 | Byte 2 | Byte 1 | Byte 0 |

MSB
(Most Significant Bit)   **ARM register**   LSB
(Least Significant Bit)

Program status register **E-bit = 0**

31   0

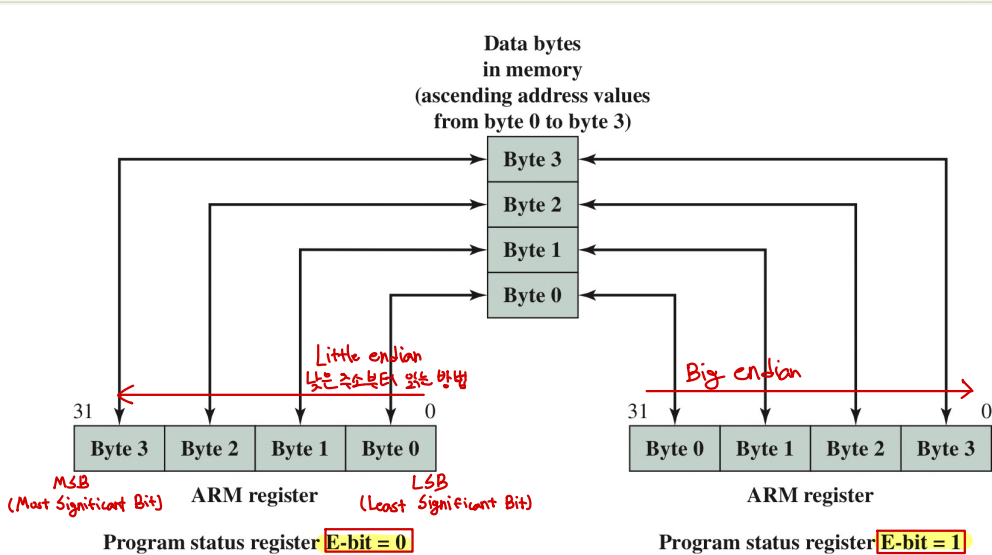| Byte 0 | Byte 1 | Byte 2 | Byte 3 |

ARM register

Program status register **E-bit = 1**

Figure 12.5 ARM Endian Support—Word Load/Store with E-Bit