

Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C

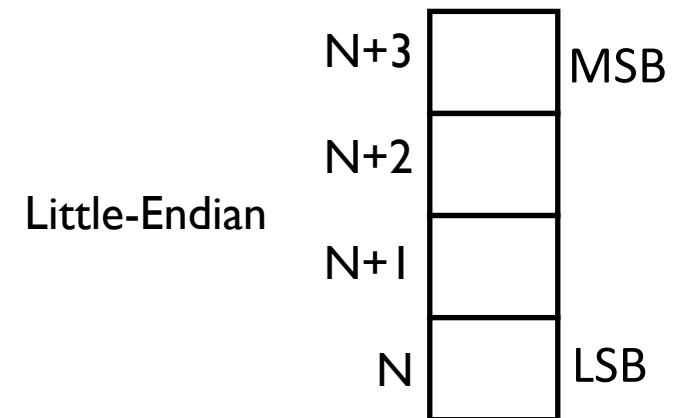
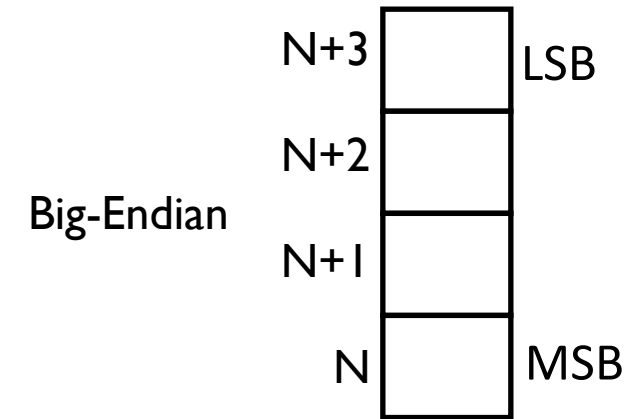
Chapter 3 ARM Instruction Set Architecture Exercises

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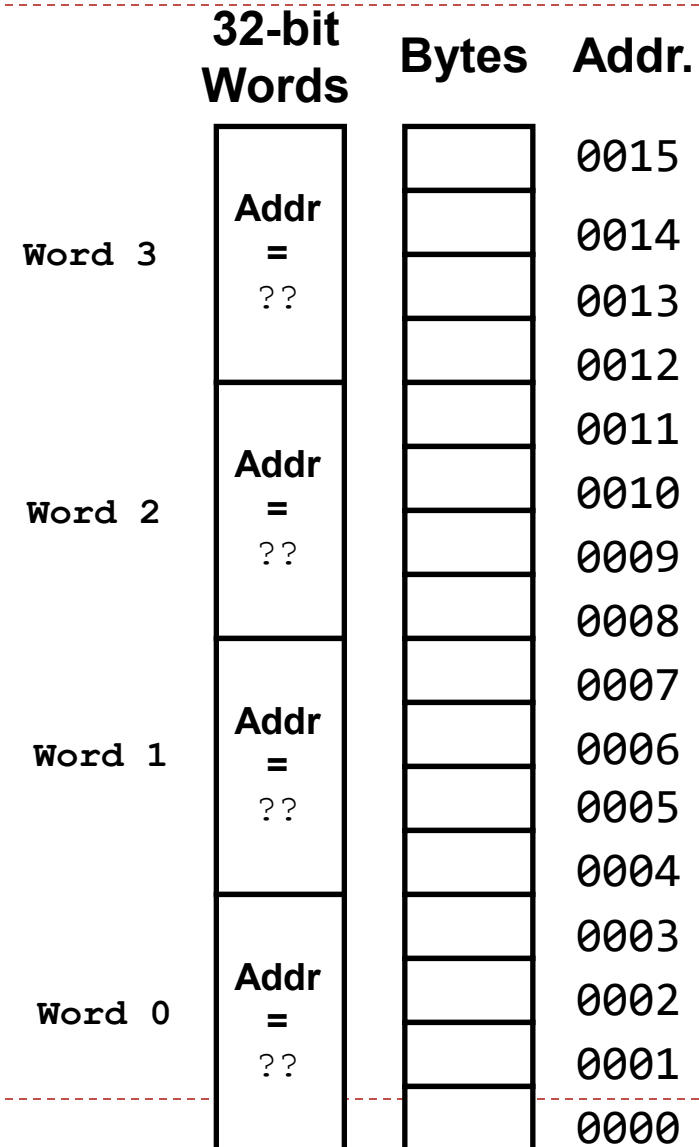
Question: Endianness

- Q: Assume Big Endian ordering. If a 32-bit word resides at memory address N, what is the address of:
 - (a) The MSB (Most Significant Byte)
 - (b) The 16-bit half-word corresponding to the most significant half of the word
- Q: Redo the question assuming Little Endian ordering.



Question: Endianness

What are the memory address of these four words?



Question: Endianness

The word stored at address `0x20008000` with Big-Endian ordering is

The word stored at address `0x20008000` with Little-Endian ordering is

| Memory Address | Memory Data |
|-------------------------|-------------------|
| <code>0x20008003</code> | <code>0xA7</code> |
| <code>0x20008002</code> | <code>0x90</code> |
| <code>0x20008001</code> | <code>0x8C</code> |
| <code>0x20008000</code> | <code>0xEE</code> |