**Answer the problems**

**8.8)** Suppose the program statement

for (i = 1; i 6 = n; i + +)

a[i] = b[i] + c[i];

is executed in a memory with page size of 1,000 words. Let n 1,000. Using a machine

that has a full range of register-to-register instructions and employs index registers,

write a hypothetical program to implement the foregoing statement. Then show the

sequence of page references during execution.

**8.10)** Assuming a page size of 4 Kbytes and that a page table entry takes 4 bytes, how many

levels of page tables would be required to map a 64-bit address space, if the top level

page table fits into a single page?

**8.18)** Consider a paged logical address space (composed of 32 pages of 2 Kbytes each)

mapped into a 1-Mbyte physical memory space.

1. What is the format of the processor’s logical address?

**b.** What is the length and width of the page table (disregarding the “access rights”

bits)?

**c.** What is the effect on the page table if the physical memory space is reduced by

half?