Problem Set 18

CS 411

Due at the beginning of class on the first class day of the following week.
Sections 8.5–8

1. Explain:

   (a) Why address space identifiers (ASIDs) are used.

   (b) Why translation look-aside buffers (TLBs) are used.

2. Consider a computer system with a 32-bit logical address and 4-KB page size. The system supports up to 512 MB of physical memory. How many entries are there in each of the following?

   (a) A conventional, single-level page table

   (b) An inverted page table

3. What is the purpose of paging the page table? Does a paged page table use more, the same, or less memory than a single-level page table?