KEPHA MOSE

CS6210-001

Homework

1. Consider a processor that supports virtual memory. It has a virtually indexed physically tagged cache, TLB, and page table in memory. Explain what happens in such a processor from the time the CPU generates a virtual address to the point where the referenced memory contents are available to the processor.

2. Distinguish between segmentation and paging.

3. Explain all the actions from the time a process incurs a page fault to the time it resumes execution. Assume that this is the only runnable process in the entire system.

4. Explain the following terms: working set of a process, thrashing, paging daemon, swapper, loader, and linker.

5. Explain page coloring and how it may be used in memory management by an operating system.

6. Explain clearly the costs associated with a process context switch.

7. Explain the functionality of the different layers found in the network protocol stack of an operating system such as Linux.