Problem Set 14

CS 311

Due Mar. 24, 2014

Due at the beginning of class in hardcopy.
Sections 6.7–8

1. Consider a variant of the RR scheduling algorithm in which the entries in the ready queue are pointers to the PCBs.

   (a) What would be the effect of putting two pointers to the same PCB in the ready queue?

   (b) What is a major advantage, and a major disadvantage, of this scheme?

   (c) How would you modify the basic RR algorithm to achieve the same effect without the duplicate pointers?

2. The Linux Completely Fair Scheduler (CFS) is fair at the task level, but can be exploited by a user who runs a large number of tasks. Explain the nature of this exploit and suggest a mechanism that would counter it.