CSC 139 Operating System Principles

10/16/2019 In-class Group Assignment

1. Jurassic Park consists of a dinosaur museum and a park for safari riding. There are *m* passengers and *n* single passenger cars. Passengers wander around the museum for a while, then line up to take a ride in a safari car. When a car is available, it loads the one passenger it can hold and rides around the park for a random amount of time. If the *n* cars are all out riding passengers around, then a passenger who wants to ride waits. Use semaphores to synchronize *m* passenger processes and *n* car processes.
2. Suppose we have two threads, *A* and *B*, repeatedly print out ping and pong, respectively. For some reason, we want to execute them in an alternating order. An alternating order would force *A* and *B* to print out in the order of

ping pong ping pong ping pong …

Use semaphores to implement these two threads correctly.