CSE 5343 Fall 2002 PROJECT

The CSE 5343 Project for this semester is based on the NACHOS operating system as described in Addendum to your text available from the Book's home page. The project consists of one programming task which is due by midnight on December 13. This task requires modifying Nachos according to the task description, developing test data, testing your programs, and then submitting (via email) for grading the source code, developed test data, and test results. Projects are to be completed in groups of 2 (or 1) where each person in the group will receive the same grade. The assignment will be graded on a 100 point scale and is worth 1/4 of your total grade.

You are to submit for grading the code, the test execution, and a README file which describes what you did, which files were changed, how you tested, and a discussion of test results. Code which is changed MUST contain comments showing what changes were made. Late projects will not be accepted. The following grading scheme will be used:

- Submissions Requirements (10pts) (Code, Readme, Test)
- Comments in Code (10pts)
- Testing (Test programs, test results) (20pts)
- Modifications (Do what was required) (60pts)

This task is not easy, so begin work as soon as possible.

Prior to beginning the programming, you need to identify teams and notify Dr. Dunham via email as to the members of each team. Please send this information to Dr. Dunham via email by October 1. In addition all Nachos material should be obtained from the web site (see my home page for the link).

Task Description  Please read the documentation in the thread.tex file. Implement producer/consumer communication through a bounded buffer, using locks AND condition variables. Your test should involve writing into a buffer from 2 concurrently executing producer threads and reading from the same buffer with 2 concurrently executing consumer threads. Each producer/consumer writes into the buffer (reads from the buffer) one character at a time. Each producer should write into the buffer the phrase "HELLO WORLD!". (You may use any phrase you wish.) Test your code with buffers of size 1, 5, 20. Your output must show the sequence of items that each producer/consumer writes/reads into/from the buffer. In your Readme file, include a paragraph describing and comparing the results of the three tests.

NOTE: You should test with the -rs option.