CS3502 OPERATING SYSTEMS

Fall 2017

ASSIGNMENT NO. 2b PROCESSOR SCHEDULING

Study the behavior of three OS scheduling policies FCFS, SJF and RR using the following three simulation models:

batmfcfs.cpp (Batch OS with FCFS scheduling)

batmsjf.cpp (Batch OS with SJF scheduling)

tsmult.cpp (Time-sharing RR scheduling)

1. Copy these files from the "/home/jgarrido/psim3" directory on the CS3 server.
2. Compile and link the first program.
3. Execute the program and take note of the performance metrics computed.
4. Increase the system memory and repeat.
5. Include your conclusion.
6. Repeat for the other two programs.

In the last part of your report include your answers to the following questions:

1. What would observable in the model with RR scheduling for a single-class system?
2. Explain how multiprogramming is made possible for these models. How is this implemented?
3. Explain the changes for the parameters of the FCFS model so that there are no jobs rejected.
4. Identify the performance measures that conflict with each other. Give your reasons for this. Which ones are more important?
5. Change the time slice of the RR model (tsmul.cpp). What are your conclusions after reading the trace and performance measures.
6. Analyze the simulation run of the RR model. RR does not have the best performance, why? What advantages does RR have compared to the other scheduling policies?