CSC 4320
Project 2 Short Report
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Overview

The problem I have used for this project is Producer-Consumer. My java code reads off of the processed data from an input file called processes.txt and turns each process into a thread that simulates its arrival and CPU burst using Thread.sleep().

Implementation Detail

The java program reads the processes.txt, which turns each process into a producer thread and then simulates its arrival and burst time using Thread.sleep(). The processes.txt contains this:

PID	Arrival_Time	Burst_Time	Priority
1	0	5	2
2	2	3	1
3	4	2	3

It then uses Producer-Consumer to to synchronize access to a shared bounded buffer between the process threads and a single consumer thread. The consumer thread then waits for the available items and consumes them one at a time. This simulates a system that handles completed tasks.

Output

```
[Consumer 1] Waiting to consume...
[Process 1] Arrived at time 0
[Process 2] Arrived at time 2
[Process 3] Arrived at time 4
[Producer 1] Waiting to produce...
[Producer 2] Waiting to produce...
[Producer 1] Produced item 1
[Producer 2] Produced item 2
[Process 2] Finished after burst 3s
[Process 1] Finished after burst 5s
[Consumer 1] Consumed item 1
[Producer 3] Waiting to produce...
[Producer 3] Produced item 3
[Process 3] Finished after burst 2s
[Consumer 1] Waiting to consume...
[Consumer 1] Consumed item 2
[Consumer 1] Waiting to consume...
[Consumer 1] Consumed item 3
All processes and consumer completed.
```