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Discussion 6: Lab 2 prep

**Part 1**

1: Explain why semaphores keep a queue of processes and how the semaphores methods interact with the queue

When all resources are in use, busy waiting occurs. We use a semaphore to handle this via a queue of processes. When processes block themselves, they call the block operation which places the process in a waiting queue that’s related to the semaphore. When this occurs, the blocked processes’ state is changed to the waiting state. A process is unblocked only when another process executes the signal() operation. When this happens, it’s removed from the waiting queue.

2: What function is used to create a thread in the Pthread library? What function is used to wait for another thread to complete? Name the functions, explain what they do at a high level and explain their parameters.

pthread() is the function used to create a thread in the pthread library. The attributes are specified within a process by attr. If attr is null then default attributes are used. pthread\_createwill store the new thread’s ID. pthread\_mutex\_lock() is what is used to perform wait on a thread. This happens while another thread is currently completing.

**Part 2**

My part 2 of this discussion is another file enclosed with this one in a zip.

To compile use… *gcc d6.c –o d6* then run using… *./d6*

My program will ask how many processes we want and for this discussion example, enter 3. Then it will ask for process names. First enter A, then B, then C. Then it will ask for arrival times and run times. Enter *0 10* first, then *4 8*, then *7 3*.