

Dan Hervé

## Lab 5 Problem 6

I created 3 producers and one consumer, and created the consumer last. The program looped just fine, but unexpectedly, the producers did not outpace the lone consumer. Data was consumed and produced at a 1:1 ratio. Furthermore, it does not appear that the additional producers are ever entered into, since the "Producer activates" message is not repeated. My guess is that the pthread\_t pointers condp and condc have something to do with this. Though there are additional producers, they all point to condp, so the additional threads become superfluous.

Producer produces; buffer is full up to position: 1

Producer activates

Producer waiting

Consumer activates

Consumer consumes; buffer is full up to position: 0

Producer produces; buffer is full up to position: 1

Producer activates

Producer waiting

Consumer activates

Consumer consumes; buffer is full up to position: 0

Consumer activates

Consumer waiting

Producer produces; buffer is full up to position: 1

Producer activates

Producer waiting

Consumer consumes; buffer is full up to position: 0

Producer produces; buffer is full up to position: 1

Producer activates

Producer waiting

Consumer activates

Consumer consumes; buffer is full up to position: 0

Producer produces; buffer is full up to position: 1  
Producer activates  
Producer waiting  
Consumer activates  
Consumer consumes; buffer is full up to position: 0  
Consumer activates  
Consumer waiting  
Producer produces; buffer is full up to position: 1  
Producer activates  
Producer waiting  
Consumer consumes; buffer is full up to position: 0  
Producer produces; buffer is full up to position: 1  
Producer activates  
Producer waiting  
Consumer activates  
Consumer consumes; buffer is full up to position: 0  
Producer produces; buffer is full up to position: 1  
Producer activates  
Producer waiting  
Consumer activates  
Consumer consumes; buffer is full up to position: 0  
Consumer activates  
Consumer waiting  
Producer produces; buffer is full up to position: 1  
Producer activates  
Producer waiting  
Consumer consumes; buffer is full up to position: 0  
Producer produces; buffer is full up to position: 1  
Producer activates

Producer waiting

Consumer activates

Consumer consumes; buffer is full up to position: 0

Producer produces; buffer is full up to position: 1

Producer activates

Producer waiting

Consumer activates

Consumer consumes; buffer is full up to position: 0

Consumer activates

Consumer waiting

Producer produces; buffer is full up to position: 1

Producer activates

Producer waiting

Consumer consumes; buffer is full up to position: 0

Producer produces; buffer is full up to position: 1

Producer activates

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