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Project4

* Executable
  + project4
* Compiling on Linux

1. Copy project files with make file over to a Linux system like empress.
2. Needs C++11 support, empress has g++, osc virtual machine needs apt-get install g++
3. Run command make
4. Run command ./project4 1000 3 2 with three parameters where 1000 is milliseconds, 3 is producers, and 2 is consumers.
5. Run and see results

Instead of using pthreads I used c++11 standard library mutex and conditional\_variables to keep track of the buffer. This allowed me to run the code on both Windows and Linux without any changes. The producer threads sleep until ready to push and then wait if the buffer is full. The consumers sleep and then wait if the buffer is empty. As expected if there are equal number of consumers and producers, the buffer will fill a little and empty a little and stay constantly active. With more consumers, the buffer is usually close to empty. With more producers the buffer is usually full.