```
OpenSSH SSH client                                                              —  □  ✕

ya1220@edge39:consumer_producer$ make
g++ -Wall -c helper.cc main.cc
g++ -Wall -pthread -o main helper.o main.o
ya1220@edge39:consumer_producer$ ./main 5 6 2 3

Entered: consumers = 3 | producers = 2 | queue_size = 5 | number_of_jobs_for_each_producer = 6
Starting consumer thread = 0
..Created all consumer threads.. Starting consumer thread = 1
Starting consumer thread = 2
..Created all producer threads..

Started producer thread = 0
Producer(0) about to go to sleep for 4 seconds..
Started producer thread = 1
Producer(1) about to go to sleep for 3 seconds..
Producer(1): woke up..
Producer(1): Job id 0..current number of jobs in buffer = 0
Producer(1): Job id 0 sleeping for 3 and produced job with duration = 6
Producer(1) about to go to sleep for 4 seconds..
Consumer(0): Job id 0 grabbed item..about to consume for t = 6..items left in queue = 0
Producer(0): woke up..
Producer(0): Job id 0..current number of jobs in buffer = 0
Producer(0): Job id 0 sleeping for 4 and produced job with duration = 7
Producer(0) about to go to sleep for 2 seconds..
Consumer(1): Job id 0 grabbed item..about to consume for t = 7..items left in queue = 0
Producer(0): woke up..
Producer(0): Job id 1..current number of jobs in buffer = 0
Producer(0): Job id 1 sleeping for 2 and produced job with duration = 3
Producer(0) about to go to sleep for 5 seconds..
Consumer(2): Job id 1 grabbed item..about to consume for t = 3..items left in queue = 0
Producer(1): woke up..
Producer(1): Job id 1..current number of jobs in buffer = 0
Producer(1): Job id 1 sleeping for 4 and produced job with duration = 6
Producer(1) about to go to sleep for 3 seconds..
Consumer(0): Job id 0 consumption done..
Consumer(0): Job id 1 grabbed item..about to consume for t = 6..items left in queue = 0
Consumer(2): Job id 1 consumption done..
Producer(1): woke up..
Producer(1): Job id 2..current number of jobs in buffer = 0
Producer(1): Job id 2 sleeping for 3 and produced job with duration = 8
Producer(1) about to go to sleep for 1 seconds..
Consumer(2): Job id 2 grabbed item..about to consume for t = 8..items left in queue = 0
Consumer(1): Job id 0 consumption done..
Producer(0): woke up..
Producer(0): Job id 2..current number of jobs in buffer = 0
Producer(0): Job id 2 sleeping for 5 and produced job with duration = 2
Producer(0) about to go to sleep for 4 seconds..
Consumer(1): Job id 2 grabbed item..about to consume for t = 2..items left in queue = 0
Producer(1): woke up..
Producer(1): Job id 3..current number of jobs in buffer = 0
Producer(1): Job id 3 sleeping for 1 and produced job with duration = 10
Producer(1) about to go to sleep for 1 seconds..
Producer(1): woke up..
Producer(1): Job id 4..current number of jobs in buffer = 1
Producer(1): Job id 4 sleeping for 1 and produced job with duration = 7
Producer(1) about to go to sleep for 3 seconds..
Consumer(1): Job id 2 consumption done..
Consumer(1): Job id 3 grabbed item..about to consume for t = 10..items left in queue = 1
Consumer(0): Job id 1 consumption done..
Consumer(0): Job id 4 grabbed item..about to consume for t = 7..items left in queue = 0
Producer(0): woke up..
Producer(0): Job id 3..current number of jobs in buffer = 0
Producer(0): Job id 3 sleeping for 4 and produced job with duration = 7
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Consumer(1): Job id 0 consumption done..
Producer(0): woke up..
Producer(0): Job id 2..current number of jobs in buffer = 0
Producer(0): Job id 2 sleeping for 5 and produced job with duration = 2
Producer(0) about to go to sleep for 4 seconds..
Consumer(1): Job id 2 grabbed item..about to consume for t = 2..items left in queue = 0
Producer(1): woke up..
Producer(1): Job id 3..current number of jobs in buffer = 0
Producer(1): Job id 3 sleeping for 1 and produced job with duration = 10
Producer(1) about to go to sleep for 1 seconds..
Producer(1): woke up..
Producer(1): Job id 4..current number of jobs in buffer = 1
Producer(1): Job id 4 sleeping for 1 and produced job with duration = 7
Producer(1) about to go to sleep for 3 seconds..
Consumer(1): Job id 2 consumption done..
Consumer(1): Job id 3 grabbed item..about to consume for t = 10..items left in queue = 1
Consumer(0): Job id 1 consumption done..
Consumer(0): Job id 4 grabbed item..about to consume for t = 7..items left in queue = 0
Producer(0): woke up..
Producer(0): Job id 3..current number of jobs in buffer = 0
Producer(0): Job id 3 sleeping for 4 and produced job with duration = 7
Producer(0) about to go to sleep for 2 seconds..
Producer(1): woke up..
Producer(1): Job id 5..current number of jobs in buffer = 1
Producer(1): Job id 5 sleeping for 3 and produced job with duration = 7
Producer(0): woke up..
Producer(0): Job id 4..current number of jobs in buffer = 2
Producer(0): Job id 4 sleeping for 2 and produced job with duration = 9
Producer(0) about to go to sleep for 3 seconds..
Consumer(2): Job id 2 consumption done..
Consumer(2): Job id 3 grabbed item..about to consume for t = 7..items left in queue = 2
Producer(0): woke up..
Producer(0): Job id 5..current number of jobs in buffer = 2
Producer(0): Job id 5 sleeping for 3 and produced job with duration = 10
Consumer(0): Job id 4 consumption done..
Consumer(0): Job id 5 grabbed item..about to consume for t = 7..items left in queue = 2
Consumer(1): Job id 3 consumption done..
Consumer(1): Job id 4 grabbed item..about to consume for t = 9..items left in queue = 1
Consumer(2): Job id 3 consumption done..
Consumer(2): Job id 5 grabbed item..about to consume for t = 10..items left in queue = 0
Consumer(0): Job id 5 consumption done..
Consumer(1): Job id 4 consumption done..
Consumer(2): Job id 5 consumption done..
Consumer(0): Job id 5 timed out waiting..exiting thread..
Consumer(1): Job id 4 timed out waiting..exiting thread..
Consumer(2): Job id 5 timed out waiting..exiting thread..


Joined all threads....cleanup starts....exiting..
ya1220@edge39:consumer_producer$
```