

Concurrency Test - PASSED

Description: this test is run by executing `test_concurrent.sh`. This test spawns 5 clients which each concurrently make 100 buy requests to item 1. The stock of item 1 is initialized to 300. Periodic stock update is turned off. To verify that our system can handle concurrent requests, the script does a `grep` command to count how many 'failed' and 'bought' lines were printed by clients. With 500 buys and 300 initial stock, this program works correctly if 200 'fail' lines are printed, 300 'bought' lines are printed, and the ending stock is 0. The test output is below.

```
Setting stock to 300, 5 clients concurrently making 100 buys each
{"How to get a good grade in 677 in 20 minutes a
day":{"COST":120.0,"QUANTITY":300,"SUCCESS":true}}
Average runtime is 0.167263169289
Sequential buy results written to
../test/experiment_results/3conctestbuy_1_100
Average runtime is 0.168271756172
Sequential buy results written to
../test/experiment_results/1conctestbuy_1_100
Average runtime is 0.168353865147
Sequential buy results written to
../test/experiment_results/5conctestbuy_1_100
Average runtime is 0.168610415459
Sequential buy results written to
../test/experiment_results/2conctestbuy_1_100
Average runtime is 0.168879029751
Sequential buy results written to
../test/experiment_results/4conctestbuy_1_100
200 buys failed and 300 buys succeeded

Name: How to get a good grade in 677 in 20 minutes a day
Cost: 120.0
Quantity: 0
```

From the highlighted portion above, we note that the test is successful.