CS333 - Lab8

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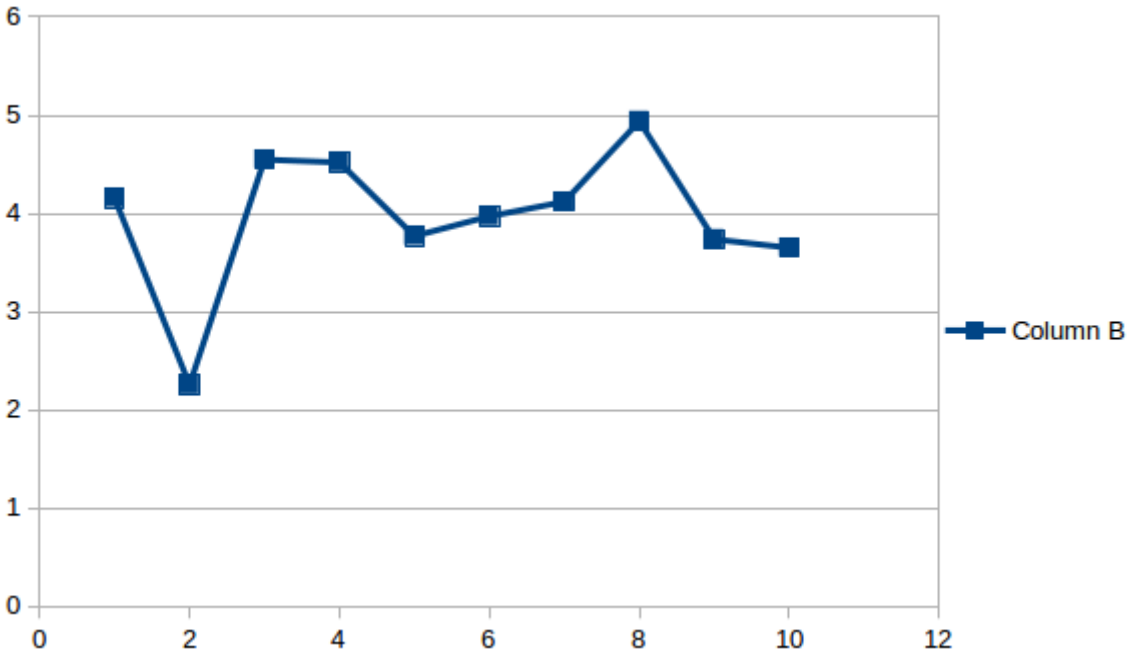
The server and client were run on NSL machines, and the respective throughputs and mean response times measured. In the 2nd exercise, it was not clear as to what should be the response time of a dropped connection, and so, response times haven't been reported.

1 Question 01

Throughput was found to saturate at N=1, at the value of around 4 reqs/second. Server gets fully saturated with just 1 worker thread. This is probably because network bandwidth becomes the bottleneck.

N	Throughput	Average response time
1	4.156791	3.479224
2	2.256205	6.670437
3	4.548031	3.094214
4	4.519298	3.146894
5	3.770285	3.856217
6	3.971511	3.695479
7	4.119698	3.415307
8	4.938990	2.794028
9	3.737036	3.918942
10	3.651123	3.939134



2 Question 02

Throughput was found to saturate at N=2, at the value of around 24 reqs/second. Also some clients get denied service and their connection gets dropped. This happens when the server queue is full and the server waits(sleeps) on the conditional variable which signals that the queue has a free slot.

Server gets fully saturated with 2 worker threads. This is because network bandwidth becomes the bottleneck for 2 server threads or more. We get a better bandwidth in this experiment, probably because it was done during a period of low traffic in the NSL.

N	Throughput
1	18.436385
2	24.877450
3	24.011245
4	22.294399
5	22.312158
6	21.775973
7	20.985426
8	20.203135
9	21.548796
10	23.173789