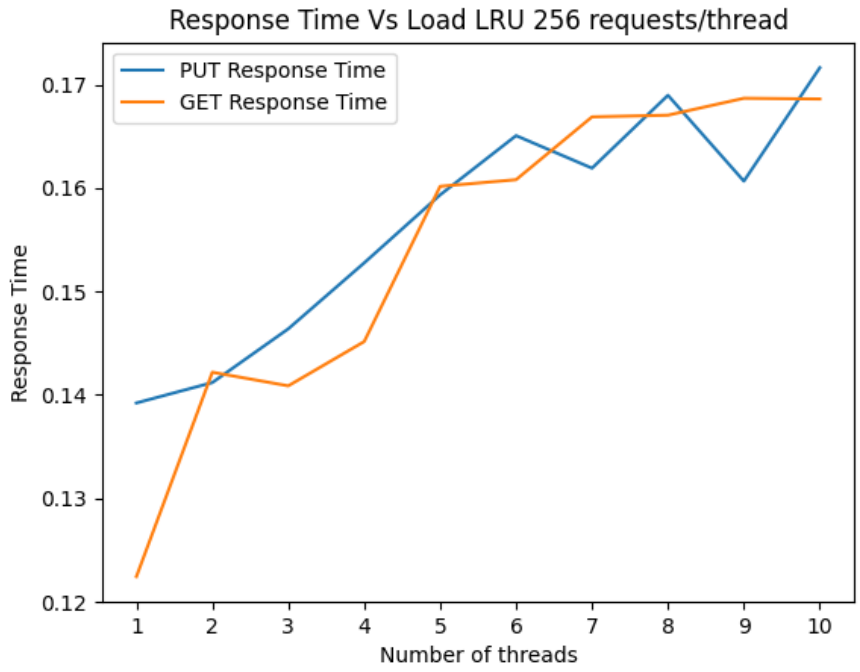
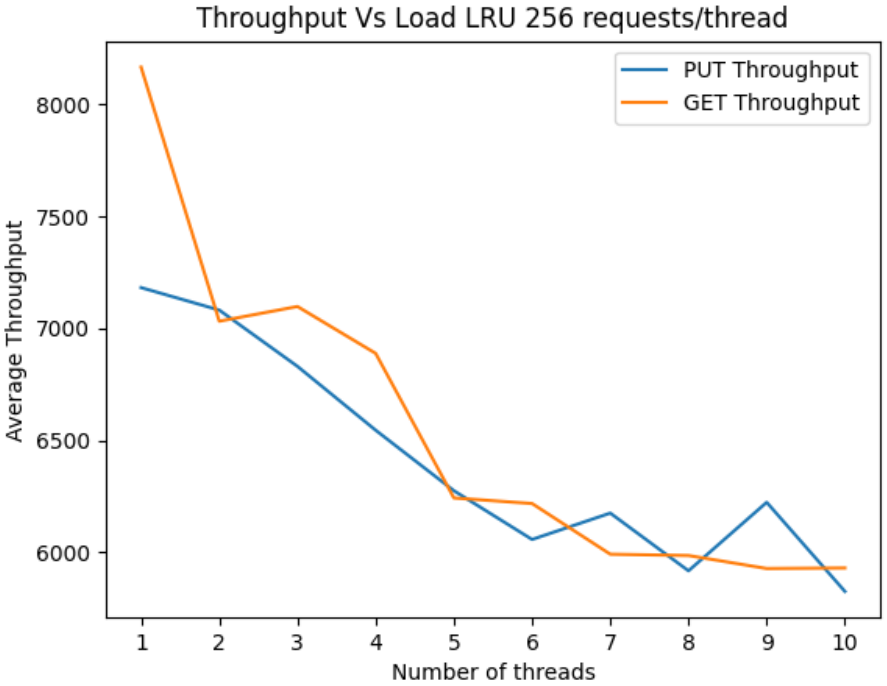
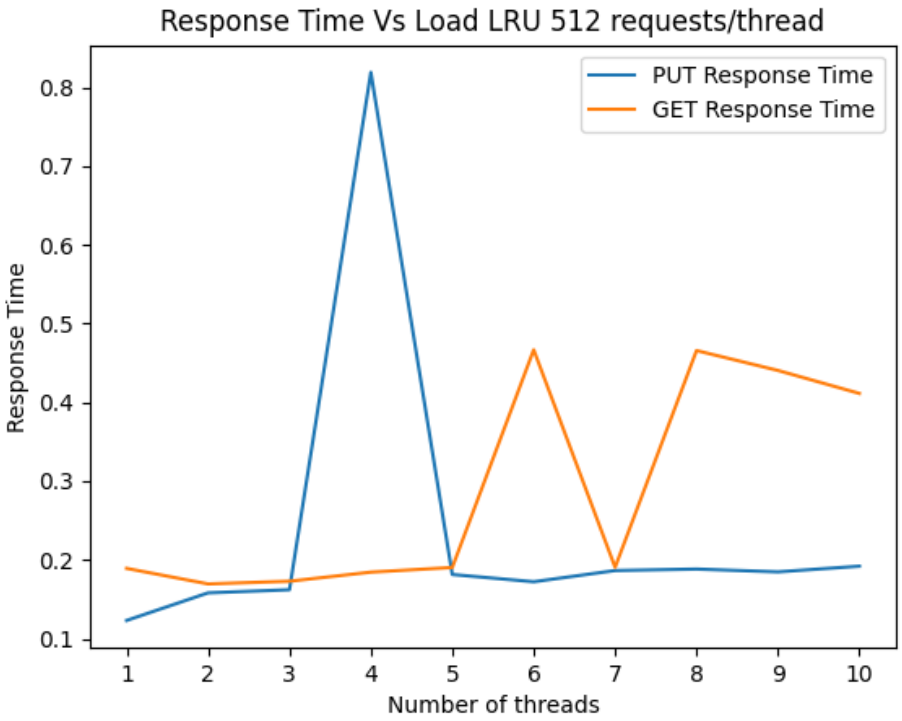
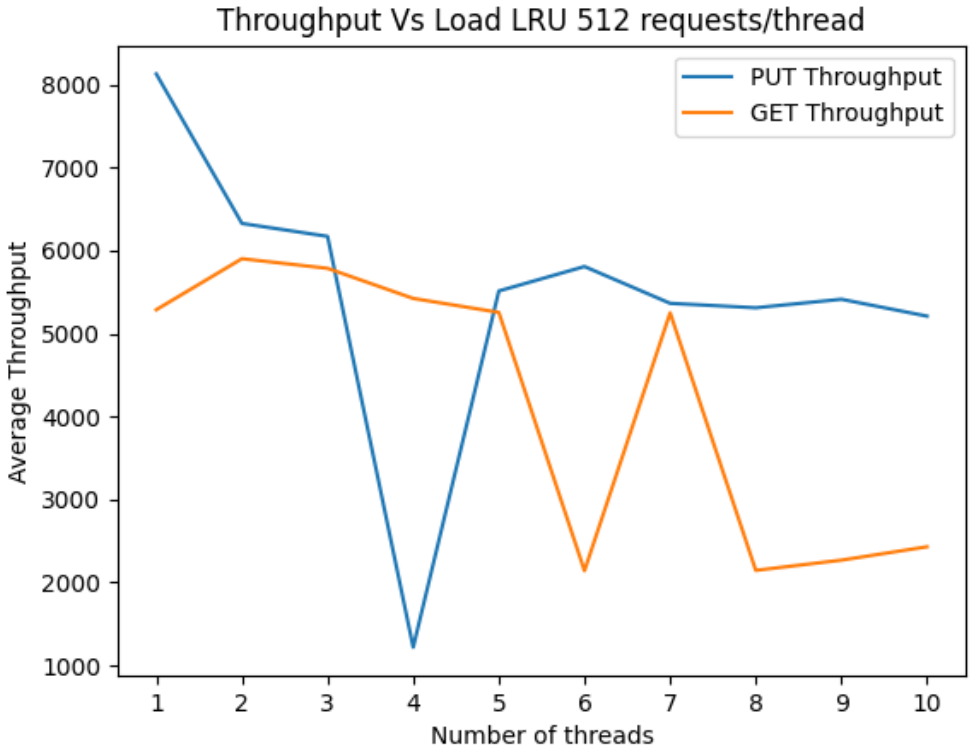
DECS Assignment 4

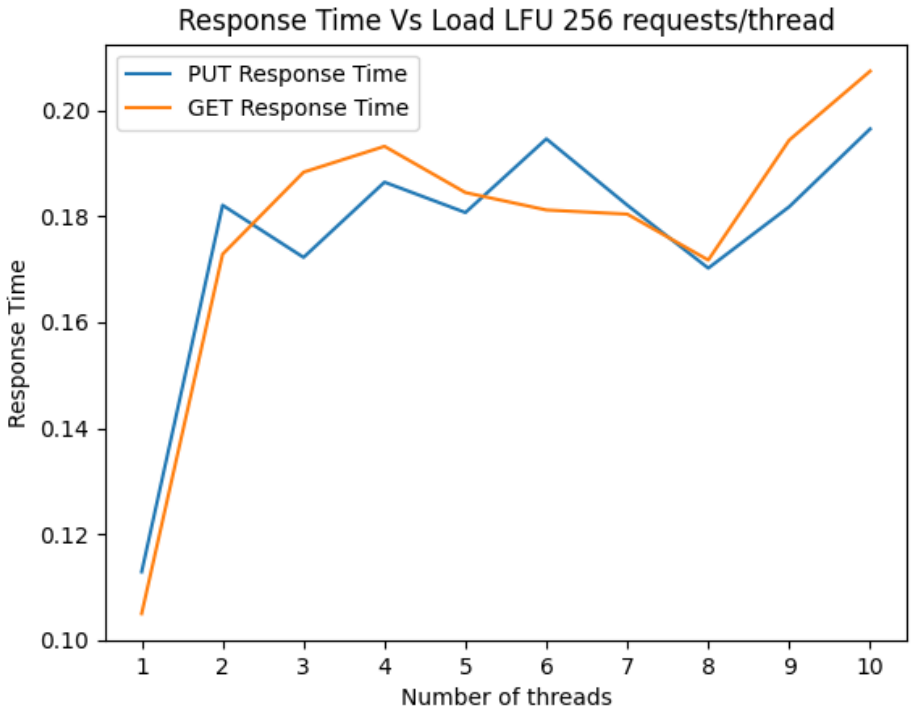
Plots: (Response time is in ms)

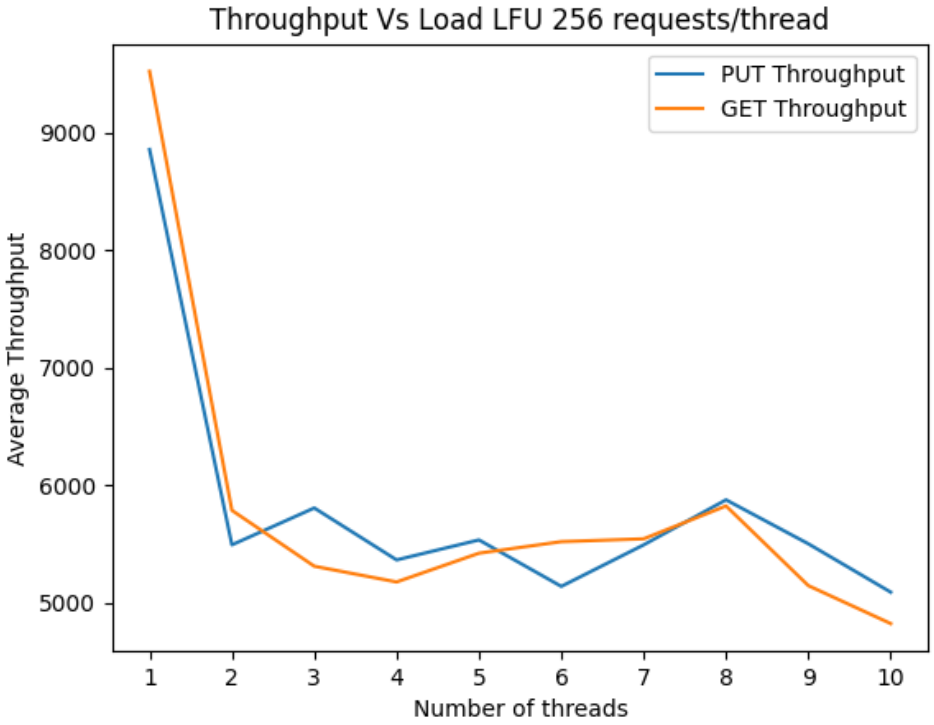


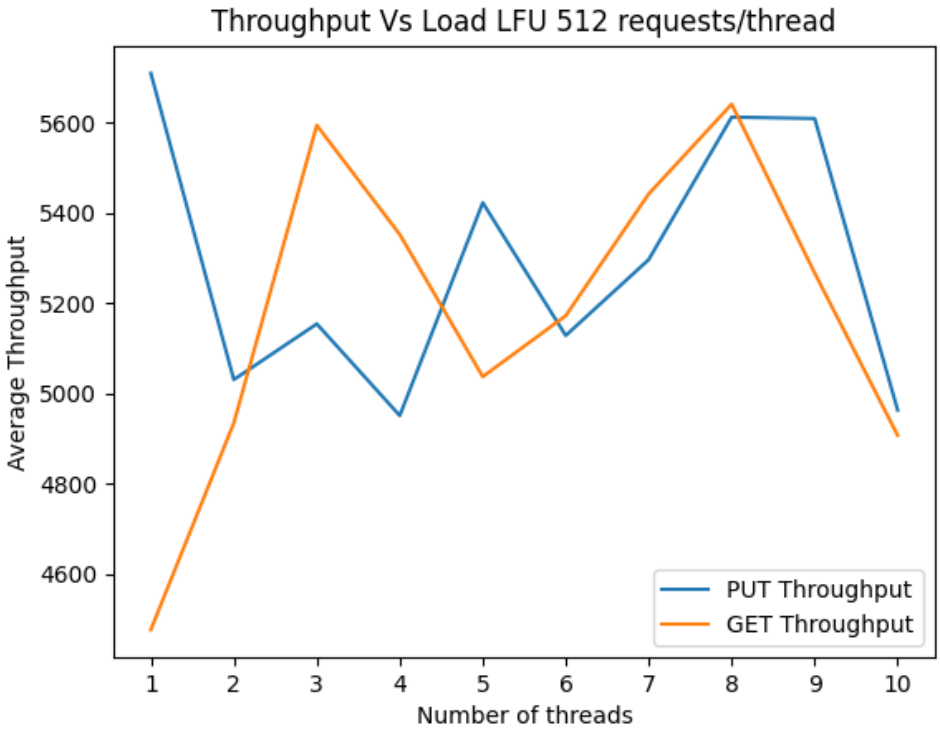



Response Time Vs Load LRU 512 requests/thread
PUT Response Time
GET Response Time
Response Time
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
1
2
3
4
5
6
7
8
9
10
Number of threads


Throughput Vs Load LRU 512 requests/thread
PUT Throughput
GET Throughput
Average Throughput
1000
2000
3000
4000
5000
6000
7000
8000
1
2
3
4
5
6
7
8
9
10
Number of threads


Response Time Vs Load LFU 256 requests/thread
PUT Response Time
GET Response Time
Response Time
0.20
0.18
0.16
0.14
0.12
0.10
1
2
3
4
5
6
7
8
9
10
Number of threads


Throughput Vs Load LFU 256 requests/thread
PUT Throughput
GET Throughput
Average Throughput
9000
8000
7000
6000
5000
1
2
3
4
5
6
7
8
9
10
Number of threads



When the number of requests per second is within 256 (cache size used is 256), the performance keeps on decreasing with load i.e. the throughput keeps on decreasing and the average response time keeps on increasing.

As we are running the client and server on the same machine, they both use up CPU cores, and this is what was expected when the load was increased.

When the number of requests per second is much greater than the cache size, the maximum throughput we get is less than that in the previous case, as the file access frequency will increase.