Evaluation I

Below evaluation is performed by executing

1 peer

2 peer concurrently

4 peer concurrently

8 peer concurrently

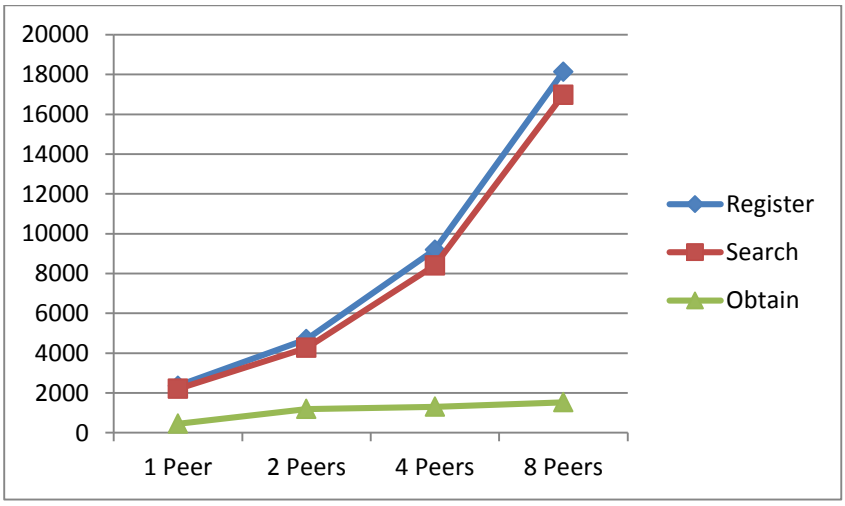
10,000 files processed by each peer of 1kb.

Below is the analysis of evaluation performed:-

File size used for this evaluation is 1KB.

Number of concurrent peers	Register (operations/second)	Search(operations/second)	Obtain(operations/second)
1 Peer	2361	2208	454
2 Peers	4697	4266	1193
4 Peers	9195	8403	1301
8 Peers	18140	16980	1529

System Throughput per second



Analysis on above data (Throughput):-

1 Concurrent peer (throughput required for each operation):-

Register 2361 operations/second

Search 2208 operations/second

Obtain 454 operations/second

8 Concurrent peers (throughputs required for each operation):-

Register 18140 operations/second

Search 16980 operations/second

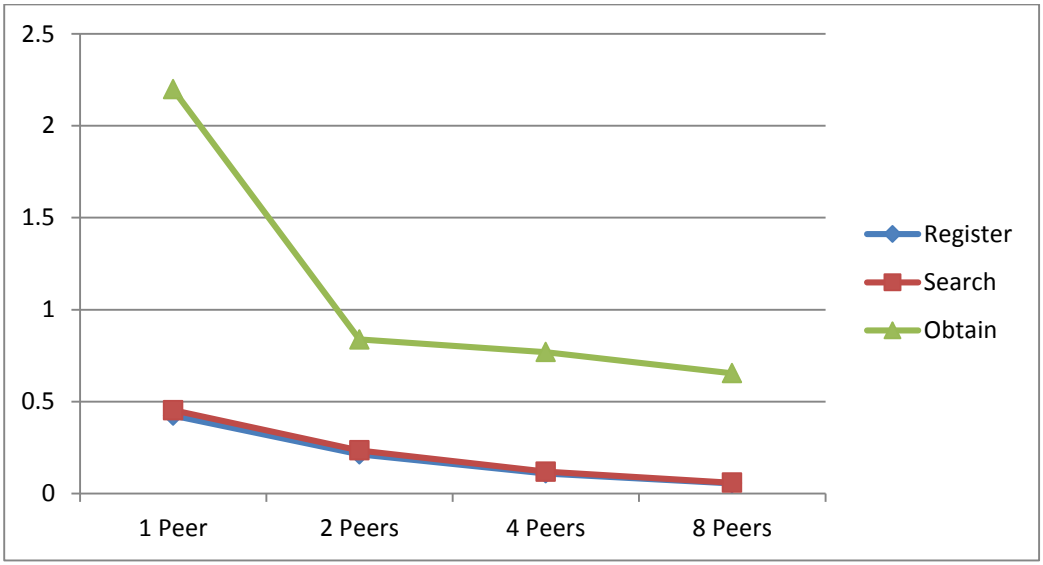
Obtain 1529 operations/second

- By comparing throughputs of 1 concurrent peer and 8 concurrent peers we can say that operations / second increases as concurrent peers go on increasing.
- Register operation is faster as compared to search and obtain operations. Obtain operations throughput is low because it has to send and receive files and involves more overheads as compared to search and register.

Response Time:-

Number of concurrent peers	Register (per operation)	Search(per operation)	Obtain(per operation)
1 Peer	0.423	0.4527	2.198
2 Peers	0.2129	0.2344	0.8381
4 Peers	0.1087	0.119	0.7686
8 Peers	0.0551	0.0588	0.654

Response time per request:-



Analysis on above data (Response time):-

1 Concurrent peer (throughput required for each operation):-

Register 0.423 milliseconds/request

Search 0.4527 milliseconds/request

Obtain 2.198 milliseconds/request

8 Concurrent peer (throughput required for each operation):-

Register 0.0551 milliseconds/request

Search 0.0588 milliseconds/request

Obtain 0.654 milliseconds/request

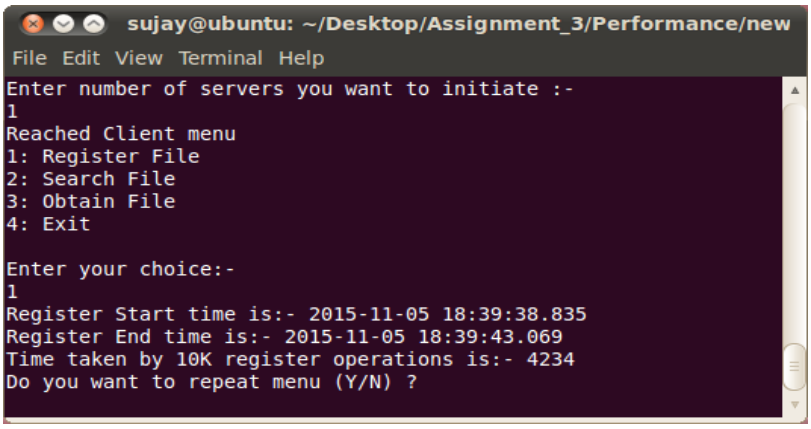
- By comparing throughputs of 1 concurrent peer and 8 concurrent peers we can say that response time per operation request decreases as concurrent peers go on increasing.
- Register operation response time is low as compared to search and obtain operations. Obtain operations response time is high because it has to send and receive files and involves more overheads as compared to search and register.

Below are the screenshots of evaluation.

Distributed Systems

1 Peer :-

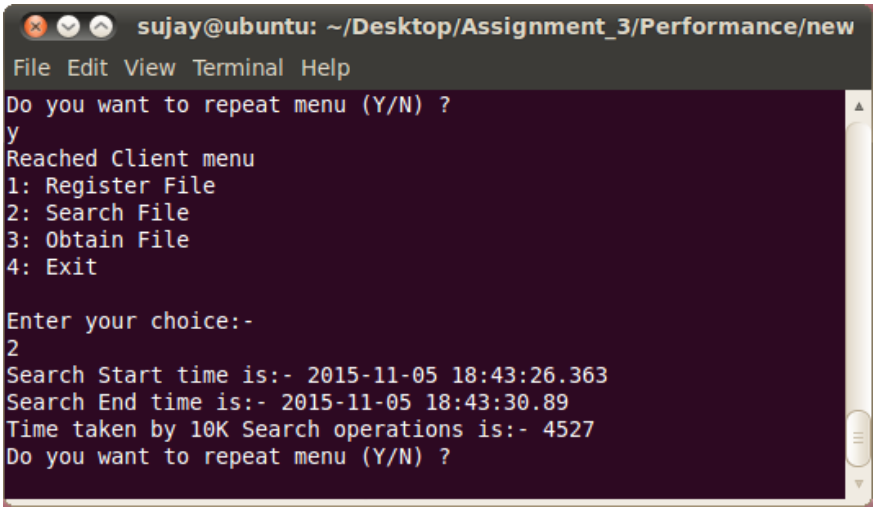
Register Operation:-



Throughput 2361.83 operations/second

Response time- 0.423 milliseconds/ request

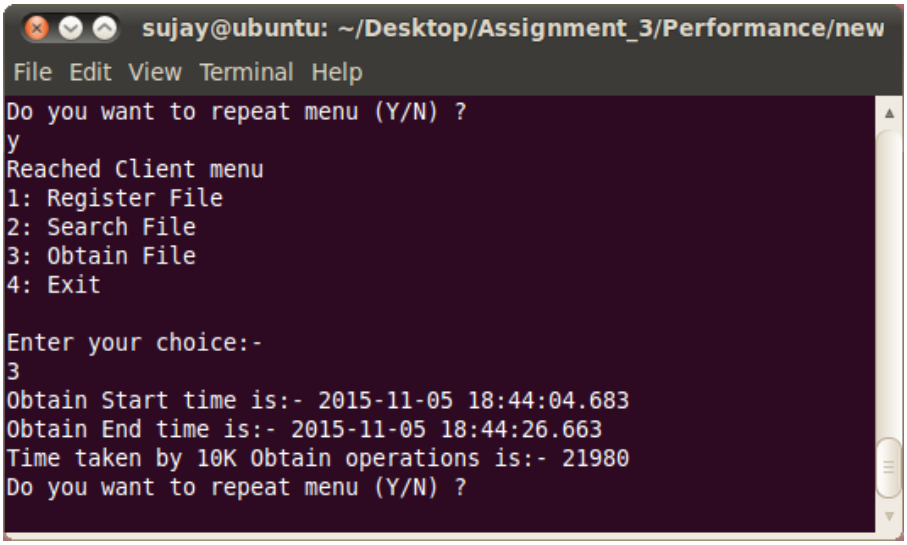
Search Operation:-



Throughput 2208.96 operations/second

Response time- 0.4527 milliseconds/ request

Obtain Operation:-

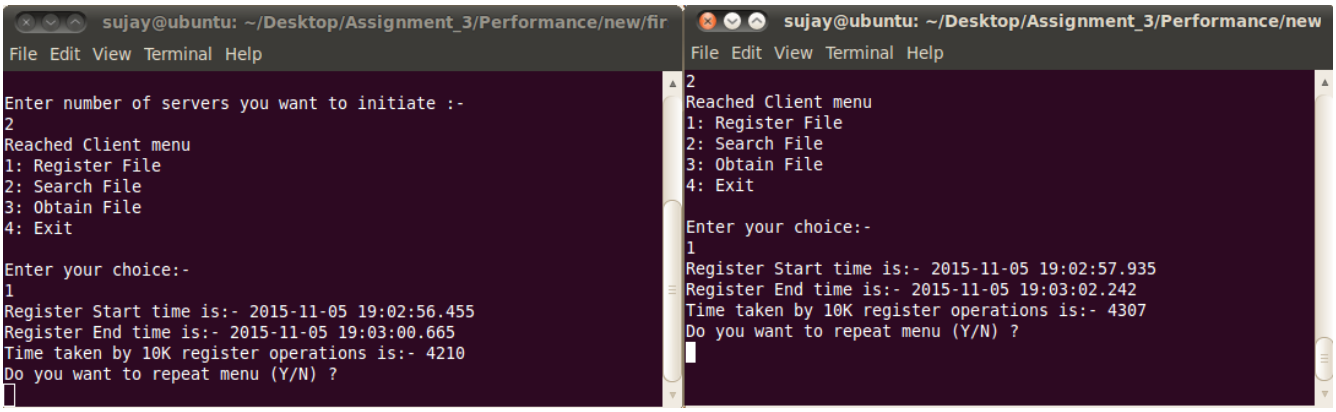


Throughput 454.96 operations/second

Response time- 2.198s milliseconds/ request

2 Peers running concurrently:-

Register Operation:-

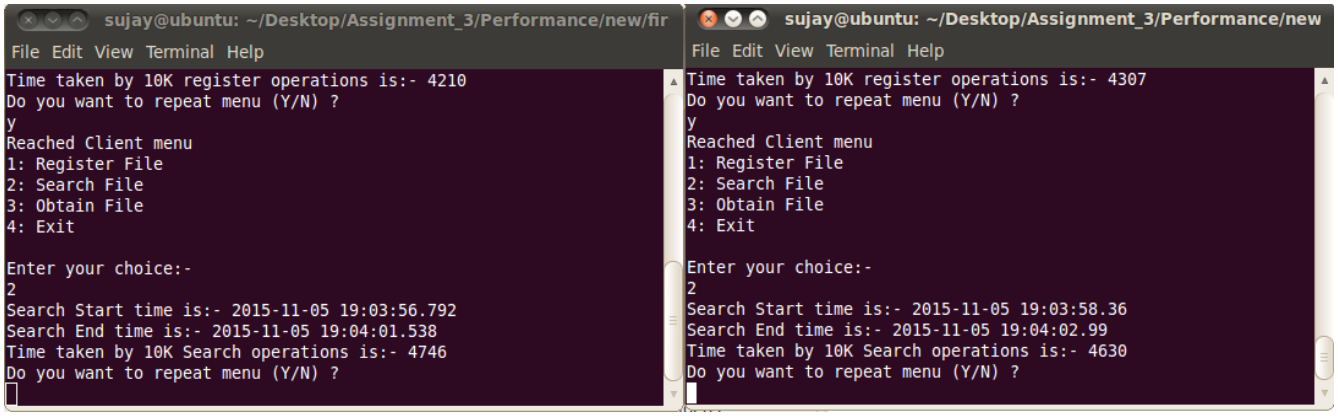


Time:- 4258.5

Throughput 4697.04 operations/second

Response time- 0.2129 milliseconds/ request

Search Operation:-

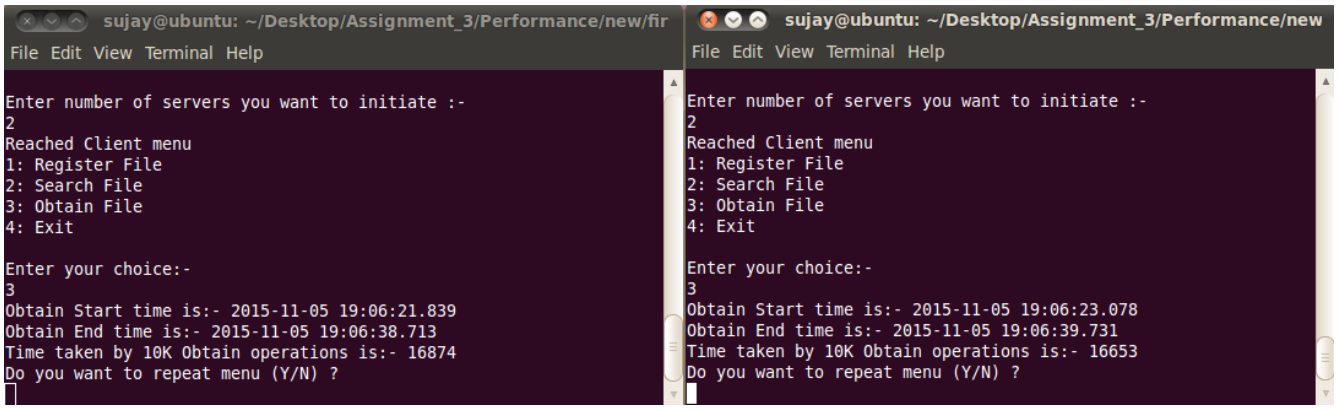


Time :- 4688

Throughput 4266.21 operations/second

Response time- 0.2344 milliseconds/ request

Obtain Operation:-



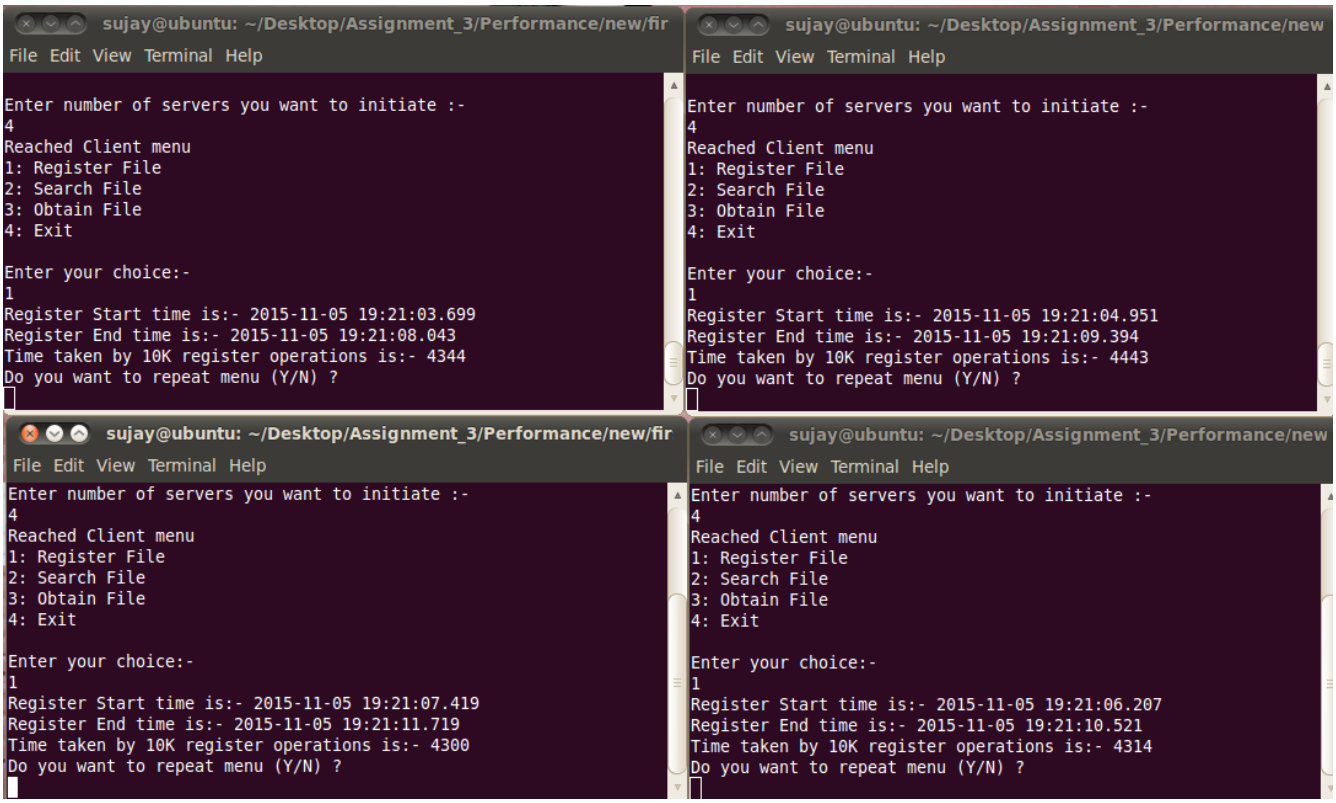
Time :- 16763

Throughput 1193.10 operations/second

Response time- 0.8381 milliseconds/ request

4 Peers running concurrently:-

Register Operation:-

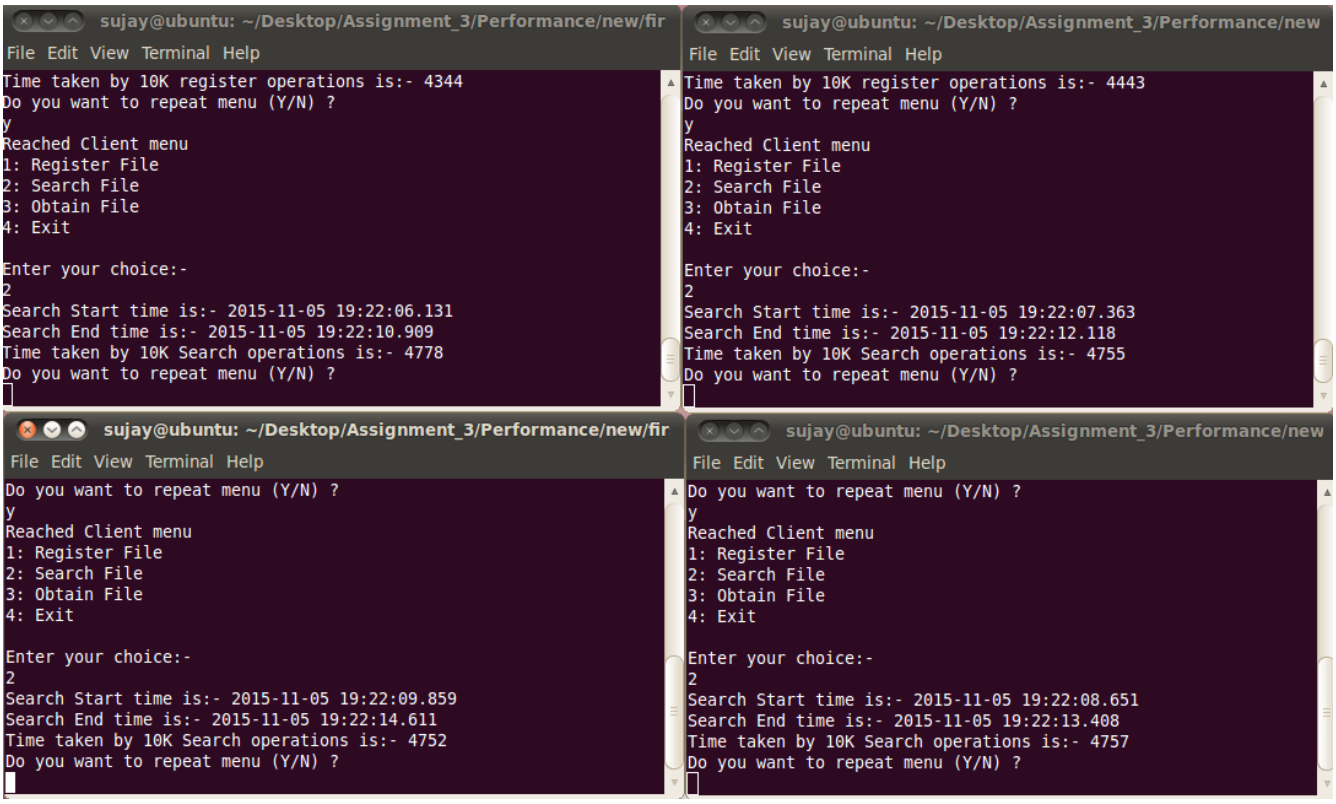


Time :- 4350

Throughput 9195.40 operations/second

Response time- 0.1087 milliseconds/ request

Search Operation:-

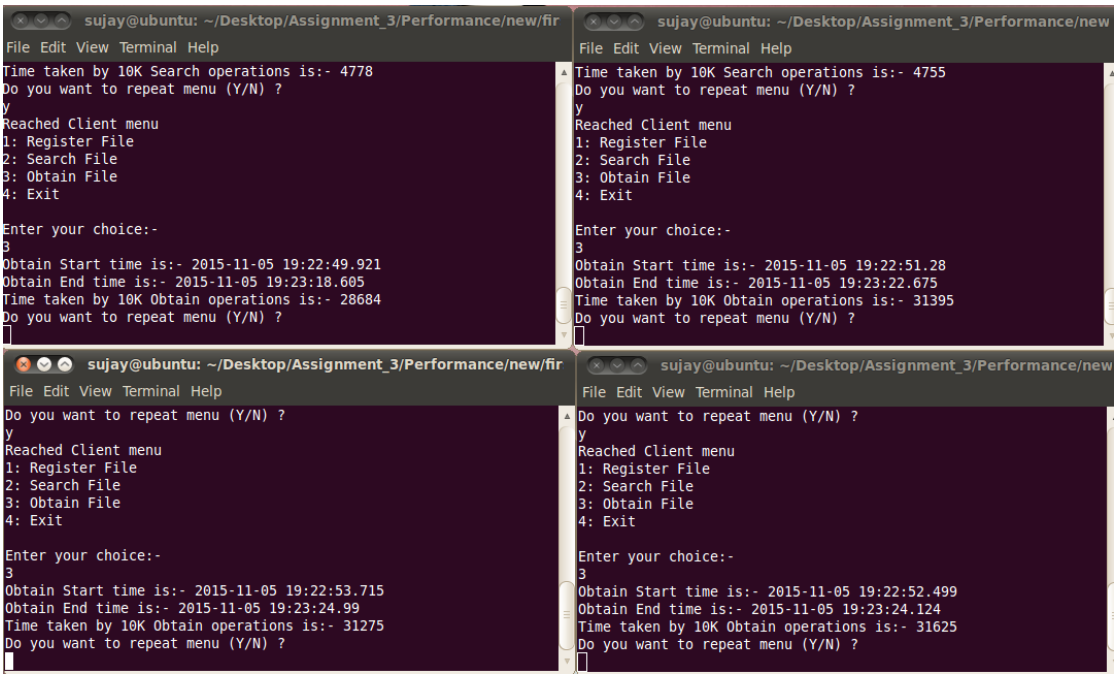


Time :- 4760

Throughput 8403.36 operations/second

Response time- 0.119 milliseconds/ request

Obtain Operation:-



Time :- 30744

Throughput 1301.06 operations/second

Response time- 0.7686 milliseconds/ request

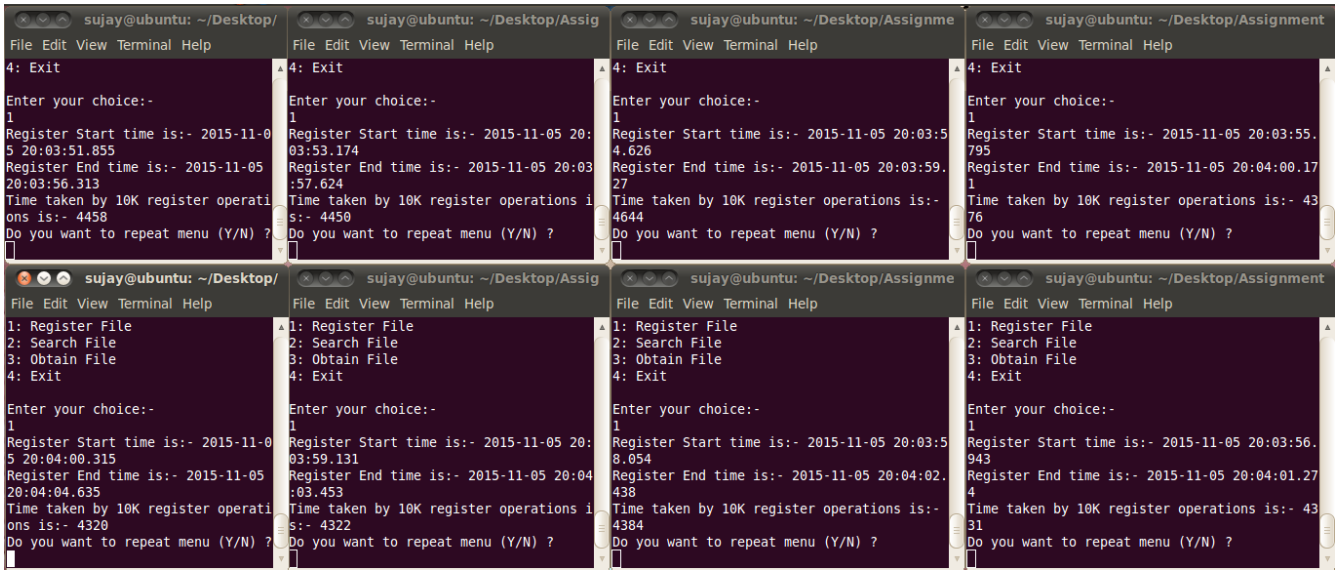
8 Peers running concurrently:-

Register Operation:-

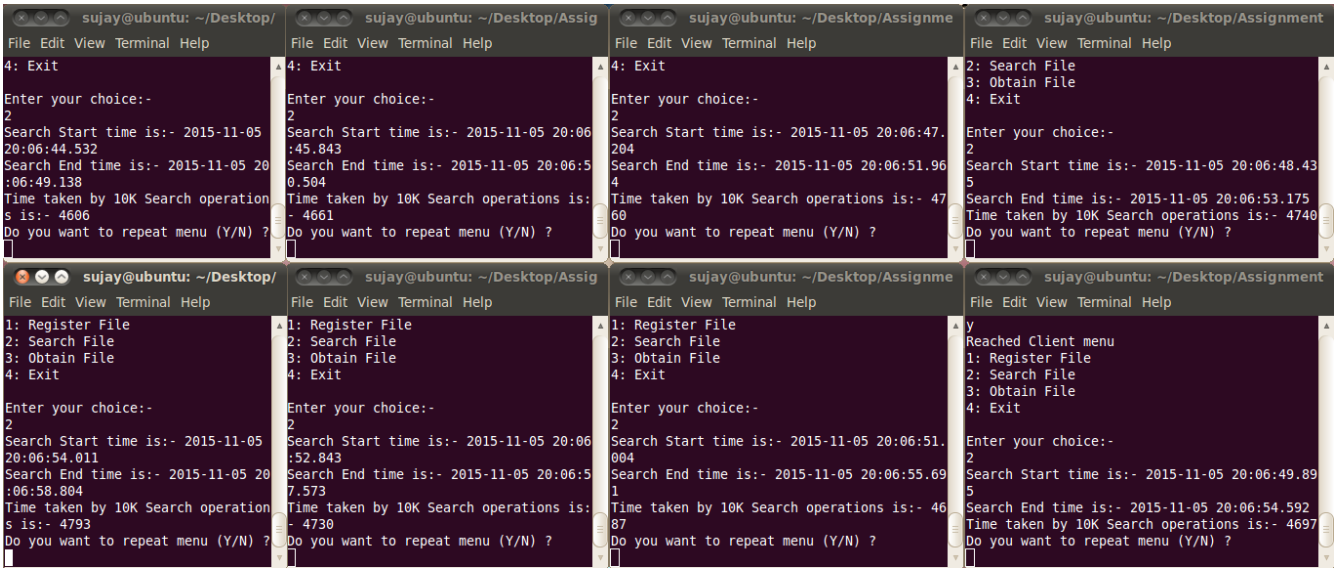
Time :- 4410

Throughput 18140 operations/second

Response time- 0.0551 milliseconds/ request



Search Operation:-

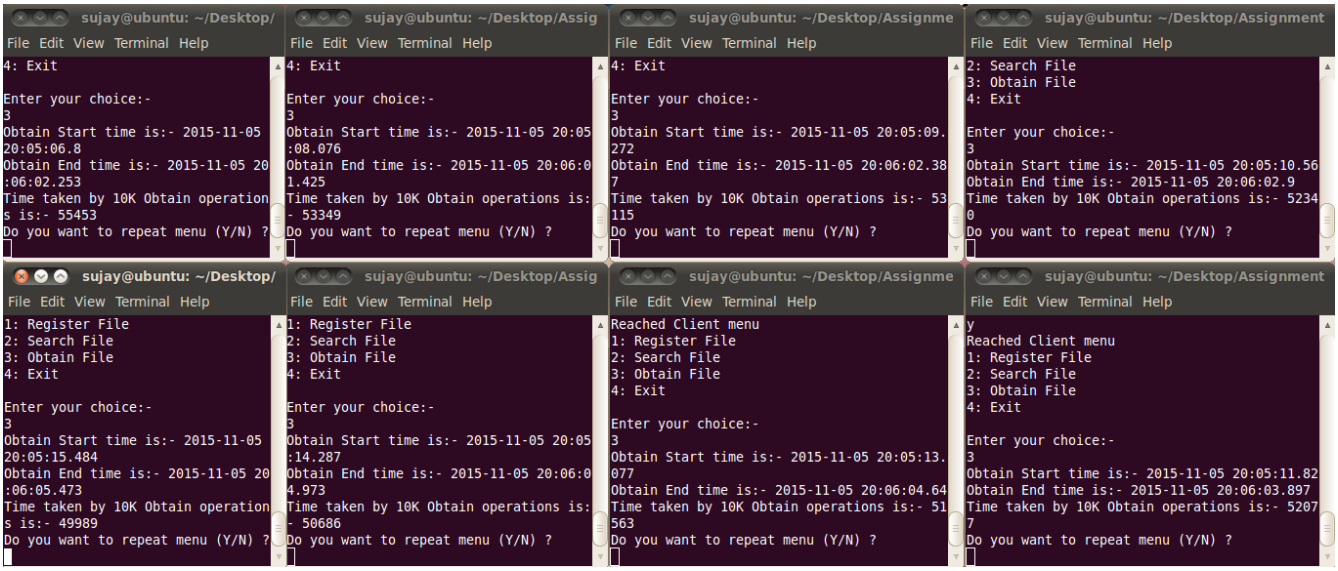


Time :- 4709

Throughput 16988 operations/second

Response time- 0.0588 milliseconds/ request

Obtain Operation:-



Time :- 52321

Throughput 1529 operations/second

Response time- 0.6540 milliseconds/ request