

- Star topology test:

1. Setup test.

```
Set up your peer, Enter Peer ID:
p1
p1 localhost 60000
Your neighbors are:
p2 localhost 60001
p3 localhost 60002
p4 localhost 60003
p5 localhost 60004
p6 localhost 60005
p7 localhost 60006
p8 localhost 60007
p9 localhost 60008
p10 localhost 60009
Your files are located in:/Users/kmursi/Desktop/Project_4/Peer1/src/main/p1/
```

```
Set up your peer, Enter Peer ID:
p9
p9 localhost 60008
Your neighbors are:
p1 localhost 60000
Your files are located in:/Users/kmursi/Desktop/Project_4/Peer1/src/main/p9/

Waiting for peers to download files..
=====
```

2. File Registration.

```
*****
Type the action number as following:
1. Search a file on the index server.
2. Register a file on the index server.
3. Register all files of the working directory.
4. Download file from a peer.
5. List my files of the current directory.
6. Calculate the performance of search requests.
7. To exit.
*****

3
File p910k.txt has been registered successfully !
File p91k.txt has been registered successfully !
File p92k.txt has been registered successfully !
File p93k.txt has been registered successfully !
File p94k.txt has been registered successfully !
File p95k.txt has been registered successfully !
File p96k.txt has been registered successfully !
File p97k.txt has been registered successfully !
File p98k.txt has been registered successfully !
File p99k.txt has been registered successfully !
```

3. Searching test.

```
1
Enter the file name along with the file extension
p810k.txt
Search message is created for file p810k.txt
Broadcast message is sent to localhost-60000!
```

```
File p810k.txt found in peer File found in :p8
Checking local files validity !
```

4. Downloading test.

```
4
Enter the peer id, and file name using this format (p1-file.txt):
p8-p810k.txt
File name:p810k.txt
```

5. Check files validity test.

```
Checking local files validity !
```

6. Delete and redownload the invalid file.

```
Invalidate query is created for file p810k.txt version number 1
Broadcast message is sent to localhost-60000!
```

```
Invalidate copy query received from p8 !
File p810k.txt has been deleted !
File name:p810k.txt version number 1.

Connected to peer : localhost through port : 60007
p810k.txt update has been downloaded successfully, version number1
```

7. Repeated message or exceeded TTL dropping.

```
** Peer localhost connected..
Message p91491843997516 has been dropped !
** Peer localhost connected..
```

- 2D Mesh topology test.

1. Setup test.

```
Enter '1'to apply the star topology or 2 for 2D-mesh topology:
2
Set up your peer, Enter Peer ID:
p2
p2 localhost 60001
Your neighbors are:
p1 localhost 60000
p3 localhost 60002
p10 localhost 60009
p5 localhost 60004
Your files are located in:/Users/kmursi/Desktop/Project_4/Peer1/src/main/p2/
```

2. Search test.

```
1
Enter the file name along with the file extension
p110k.txt
Search message is created for file p110k.txt
Broadcast message is sent to localhost-60000!

Broadcast message is sent to localhost-60002!

Broadcast message is sent to localhost-60009!

Broadcast message is sent to localhost-60004!
```

3. Search result.

```
** Peer localhost connected..

File p110k.txt found in peer File found in :p1. Time:1492563458217
** Peer localhost connected..
```

- Performance test for Star and 2D-mesh topologies.

