Test Cases

TestCaseID	Test Case Description	Expected Result	Actual Result	Status
1.	Establishing connection between peers in the network a. Network is intialised statically using a config file that is read by each peer at startup time.	All the peers in the network are registered and the configuration details should be displayed.	Peers are registered and the configuration details are displayed as read from the config file.	Pass
2.	Issuing a search query message for the first time to all the peers in the network a. Peer searches for a file by issuing search query. The query is sent to all its neighbors.	Each neighbor looks up the specified file using a local index and responds with a hitquery message in the event of a hit. The hitquery message is propagated back to the original sender by following the reverse path of the query.	Each peer with the specified file respond with a hit query message which in turn is sent to the original sender and displayed.	Pass
3.	Issuing a search query message for the second time to all the peers in the network	Each neighbor looks up the specified file using a local index and responds with a hitquery message in the event of a hit. But this time the count of sequence number in the messageID is increased by 1.	Each neighbor looks up the specified file using a local index and responds with a hitquery message in the event of a hit. But this time the count of sequence number in the messageID is increased by 1.	Pass
4.	If a particular peer has already received the same search query earlier	The Peer responds by displaying 'Message already present 'message and prevents from forwarding the query to its neneighbor again.	The Peer responds by displaying 'Message already present 'message.	Pass

5.	Locating the peer having the searched file, connecting to it and downloading it. a. Enter the peer ID you want current peer to connect in order to download the searched file.	The file should be downloaded from the specified peer to the current peer and display a message once the download is complete.	The file is transferred from the connected peer as specified by the user to the current peer and a message is displayed once the download is complete	Pass
6.	Compute the average response time per client query request	The time taken to compute the average response time is displayed by repeating the measurement 100 times and get the average.	Displays the average response time taken to search a file in the network by repeating this measurement 100 times.	Pass

Performance per client search query request

Star topology:

Response Time is 1296ms
Average Response Time is12ms

Mesh topology:

Response Time is 24765ms
Average Response Time is 247ms