Test Bench Description:

1) We have verified the correct working of the code, by running the code through different network topologies with varying number of the peers, we found that with increase in peers, overall lookup request response time increases.(As number of hops increase.)
2) We have tested for a scenario where a buyer contacts the seller, but the seller is out of stock, hence the buyer receives a negative acknowledgement. We verified that the buyer tries to contact other sellers who sells the same product.(Design Consideration)
3) Deployed the code across multiple machines i.e. few peers on one machine and few on other machine who were connected to a public LAN (eduroam). In this scenario, peers from one machine were able to communicate with peers on other machine.
4) Similar to test case-3, we deployed some peers on EC2 and some on my machine and verified that output is similar to what the output we got when we ran all peers on a local machine.(Network topologies is same in both cases)
5) When a seller receives a lookup request for the product that it doesn't have, we have tested whether it forwards the request or not.
6) Tested whether the time-out value considered is high or low by observing wait time after a buyer gets the responses from a seller.
7) Correct working of duplicate request removal is verified by checking against a network where there are high number of interconnections between peers.