

**NATIONAL INSTITUTE OF TECHNOLOGY CALICUT**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**EVALUATION QUESTION WITH EXPECTED OUTPUT**

**Course** : Networks Laboratory  
**Code** : CS3093D  
**Semester** : WINTER 2020-21  
**Total Marks** : 5  
**Date** : 15.02.2021 @ 2pm

**EXPERIMENT 4**

Design a reliable online discussion room for one Principal Investigator (PI) and three Co-Principal Investigators (Co-PIs) working in NITC under a joint project titled “COBRA”. With respect to the client server architecture, PI is the server and the Co-PIs are the clients. Let us assume that the PI has shared a common password (a random number) to the Co-PIs through a mobile phone. PI has assigned a task on networking protocol stack design for the COBRA project to be finalized by Co-PIs. Therefore, CO-PIs are planning for an online discussion to finalize the design assigned by PI. To join the discussion room, the password is required for authentication. If the password is entered by Co-PI, the PI verifies it. After the successful authentication, the access is granted to the Co-PI and a message pops out saying “Welcome to project COBRA”. He/She has to send a "Hi" message to all the connected Co-PIs to notify his presence. Similarly, he/she will send a "Bye" message while leaving the session. Every message is prefixed with the name of the PI and Co-PI to know the sender of the message. Every time, Co-PI joins the session for discussion, the PI sends a list of currently connected Co-PIs.

... Contd. (2)

The sample output is as follows:

Andrew (Co-PI)	Stallings (Co-PI)	Forouzon (Co-PI)	Richard (PI)
<p>Enter your passwd: 234513</p> <p>Welcome to Project COBRA</p> <p>No other Co-PIs connected.</p> <p>Pl. wait.</p>	<p>Enter your passwd: 234513</p> <p>Welcome to Project COBRA</p> <p>The Co-PIs connected are:</p> <p>1. Andrew</p>		<p>I am listening on port 8182</p>
<p>Stallings Connected</p> <p>[Andrew]: Hi Stallings</p> <p>[Stallings]: Hello Andrew</p>	<p>[Andrew]: Hi Stallings</p> <p>[Stallings]: Hello Andrew</p>		<p>Andrew connected</p> <p>Stallings Connected</p>
<p>Forouzon Connected</p> <p>[Forouzon]: Hi everyone.</p> <p>[Stallings]: Shall we start the discussion?</p> <p>[Andrew]: Yes</p> <p>[Forouzon]: Yes. I have got an urgent work. I will leave now and join later.</p> <p>[Forouzon]: Bye</p> <p>Forouzon left the discussion</p> <p>.</p> <p>.</p> <p>.</p> <p>.</p> <p>.</p>	<p>Forouzon Connected</p> <p>[Forouzon]: Hi everyone.</p> <p>[Stallings]: Shall we start the discussion?</p> <p>[Andrew]: Yes</p> <p>[Forouzon]: Yes. I have got an urgent work. I will leave now and join later.</p> <p>[Forouzon]: Bye</p> <p>Forouzon left the discussion</p> <p>.</p> <p>.</p> <p>.</p> <p>.</p> <p>.</p>	<p>Enter your passwd: 234513</p> <p>Welcome to Project COBRA</p> <p>The Co-PIs connected are:</p> <p>1. Andrew</p> <p>2. Stallings</p> <p>[Forouzon]: Hi everyone.</p> <p>[Stallings]: Shall we start the discussion?</p> <p>[Andrew]: Yes</p> <p>[Forouzon]: Yes. I have got an urgent work. I will leave now and join later.</p> <p>[Forouzon]: Bye</p>	<p>Forouzon Connected</p> <p>Forouzon left the discussion</p> <p>.</p> <p>.</p> <p>.</p> <p>.</p>