

CS 4345: Operating Systems

Program 2 (Spring 2018)

Due date: Wednesday, 21 March 2018, 11:00 p.m.

This is a group project. Each group (that has already been created) will have one submission (individual members do not need to submit separately).

Inter-process communication using connection-oriented sockets:

Write a *Group Chat Application* using Java to illustrate IPC between multiple processes.

Program requirements: Use *Connection-oriented (TCP) sockets* in Java [you may use the example codes supplied on BlazeVIEW as reference] to implement communication between two or more processes. The communication will start with two processes exchanging messages. New processes can join (or, existing processes may leave) at any time. Each of the processes is identified by a name that is entered by the user after a prompt [after initiating the process, a prompt can read like “Enter your name:”]. Once joined in the group conversation, all of the existing processes should see a message like “<name> has joined the group” [<name> indicates the name specified by the user upon initiation of that process]. Similar message should be displayed when a process leaves the conversation (terminate). During conversation, if a process enters a message, it is displayed by default on all other processes (group message). If a process specifies to send the message to another specific process (personal message), **the process must have some way to indicate (or, choose) the target process for PM.**

Provide the user a way to terminate the chat.

Comments in the header: Each program file should contain the following: course number (CS4345), Semester/Year (Spring 2018), assignment identifier (Program 2), and all group members’ names. You may use regular Java comments or Javadoc comments to furnish above information.

Submission instruction: Submit a .zip file containing your program file(s) or package. Include a README.txt file that **furnishes instructions to execute your program.**

[Important] Naming of the .zip file: If your group has members *Alice Dean*, *James Smith*, and *Bob Bryan* (hypothetical names) then name the .zip file as **AD_JS_BB.zip**

Submit your .zip file through BlazeVIEW dropbox. **Note: only one submission from each group.**