Indian Institute of Information Technology, Allahabad.
Computer Networks (CNE532)
B.Tech (ECE and IT) 5th Semester

Lab Assignment #2

Instructor: Dr. S Verma & Dr. VK Chaurasiya

1. Introduction to Sockets and Tasks are:

   a. Create three programs using datagram socket, two of which are clients to a single server. Client1 will send a character to the server process. The server will decrement the letter to the next letter in the alphabet and send the result to client2. Client2 prints the letter it receives and then all the processes terminate. Compile and run this exercise.

   b. Send a C structure that includes data of type character, integer and float from client1 to the server. The server should change the values so that client2 receives a structure with entirely different data. It is not permitted that the data should be converted to any other data type before transmission.

2. You need to build a very simple client-server operation using the UNIX stream capabilities. You are to build a client and server pair, to implement your own little directory service. Suppose that the server has the following database

   0 Bob
   3 Anne
   5 Barb
   7 Ray
   9 Denbigh
   10 Terri
   104 John

This can be in a file that is read. The client is to read a request, which is a numeric address to be sent to the server. The servers look up the matching name and send it back to the client to be printed out. If the address isn't found, the server should send back an error message. For example, "Address not found".

CAUTION: DO NOT LEAVE PROCESSES RUNNING THAT ARE UNNECESSARY!! Use the kill command to kill processes. If you don't know the pid, use the ps command to get a list of currently running processes.