Network Programming Laboratory (UCS413)
Assignment:3

Objective: Create an Echo-Server using UDP socket programming in connection-less. Echo Server echo back (return back) the message sent by the client. Also, write the Client side program. *While creating program focus on the use of following socket programming functions:*
    socket( ), sockaddr_in, bind( ), sendto( ), recvfrom( ), ntohs( ), ntohl( ).

Steps to be followed:
Server Side:
- Include appropriate header files.
- Create a UDP Socket.
- Create an address by using server's IP address and server port with sockaddr_in().
- Bind the address and port using bind() system call.
- Receive a message from the Client using recvfrom() system call.
- Send the received message back(echo) to the client using sendto() system call.
- Close the socket using close() system call

Client Side:
- Include appropriate header files
- Create a UDP Socket.
- Create an address by using server's IP address and server port with sockaddr_in().
- Send and receive messages using sendto() and recvfrom() system call respectively.
- Close the socket using close() system call

Execution Steps:
- Save client and server program into two separate file with .c extension.
- Open two terminal and execute .c files by following commands
- gcc filename.c –o filename (compilation)
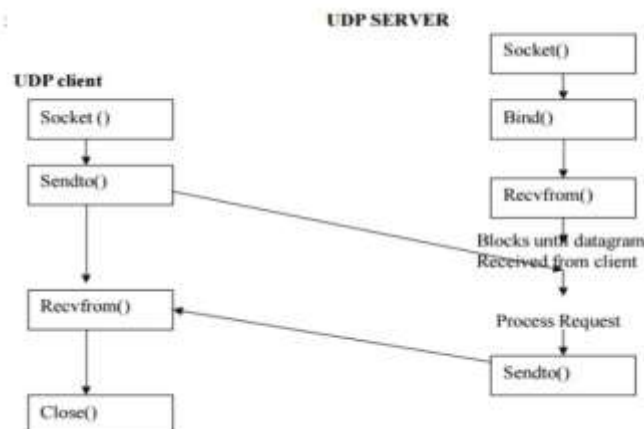- ./filename (run)

Hint: UDP Client-Server Communication Architecture

Figure 1 UDP Client-Server Communication