Socket Programming

1. Write a socket program to implement Echo server using UDP. Send and receive multiple lines of text.
2. Write a socket program to implement Echo server using TCP. Send and receive multiple lines of text.
3. Write a socket program to transfer files using TCP.
4. Write a socket program to transfer files using UDP.
5. Write a socket program to implement Chat using UDP.
6. Write a socket program to implement Chat using TCP.
7. Write a socket program to implement bit stuffing. Client reads data from user. It Performs bit stuffing and sends the Stuffed data to the server. The server reads the stuffed data, unstuff it, and displays the original data to the user. Add flag at both ends of data.
8. Read an IP address from user, validate it. Transmit the IP address to the server. Find its default mask and transmit to the client.
9. Client reads an IP address in this form "w.x.y.z\n" from the user and transmits to server. Server writes the first address and the last address to the client.
10. Write a socket program to simulate stop and wait protocol.
11. Write a socket program to implement Go Back N ARQ for normal operation and data lost. Show the sliding of the window.
12. Write a socket program to implement Go Back N ARQ for normal operation and error in data. Show the sliding of the window.
13. Write a socket program to implement Selective Repeat ARQ for normal operation and data lost. Show the sliding of the window.
14. Write a socket program to implement Selective Repeat ARQ for normal operation and error in data. Show the sliding of the window.
15. Write a socket program to implement DNS. Implement for multiple client request. Perform validation for IP address.
16. Write a socket program to implement Address Resolution Protocol. Perform validation for IP and MAC address.
17. Write a socket program to implement subnetting. Perform validation for network address.

18. Write a program using Raw Socket to simulate ping.

RPC Programs

19. Write a RPC program to perform calculator with 5 basic operations (+, -, *, /, %). Client sends a numbers and the operation to be done to the server. The server in turn returns the output to the client.
20. Write a program using RPC to perform 8 bit checksum operation. Client reads 16 bits of data and transmits to server. Server performs checksum operation and returns back the resultant to client.
21. Design a RPC application to reverse a given string
22. Implement Echo Server Using RPC

NS2 Programs

23. Find the performance of TCP and UDP sharing a bottleneck link in NS2
24. Simulate OSPF using NS2
25. Simulate RIP using NS2