**Q1 Explain the connection procedure followed in client server communication**

In client-server communication, the connection procedure typically follows a series of steps:

**Server Initialization:**

The server initializes itself by creating a socket using the socket() system call. This socket acts as the communication endpoint for the server.

**Binding (Server):**

The server binds the socket to a specific network address and port using the bind() system call. This step associates the socket with a specific address on the host machine.

**Listening (Server):**

After binding, the server socket enters a listening state using the listen() system call. This allows the server to accept incoming connections from clients.

**Client Initialization:**

The client initializes itself by creating a socket using the socket() system call. This socket serves as the communication endpoint for the client.

**Connection Establishment (Client):**

The client uses the connect() system call to establish a connection to the server. In this step, the client specifies the address and port of the server to which it wants to connect.

**Accepting Connections (Server):**

Once the server socket is in the listening state, it waits for incoming connection requests from clients. When a client attempts to connect, the server accepts the connection using the accept() system call. This call creates a new socket, known as the client socket, to handle communication with the specific client.

**Data Exchange:**

After the connection is established, both the client and server can exchange data through their respective sockets. They can use the send() and recv() (or read() and write()) system calls to send and receive data over the network.

**Closing Connection:**

When the communication is complete or either party wishes to terminate the connection, they can close their respective sockets using the close() system call. This releases the network resources associated with the connection.

The client-server communication follows a request-response model, where the client sends requests to the server, and the server responds to those requests. The connection procedure ensures that both the client and server are properly initialized and able to communicate with each other over the network.