

Report:

1. This program is designed to run a server which expects data from a client, takes that data and returns a response to the client and run the client which sends data and expects some response. The program controls server and client through read and write function calls. The read call in server will stall the server until it receives data from a client's write call. The read call in client will stall the client until it receives a response from the server's write call.
2. This defines a protocol that both client and server must conform to in order to communicate with each other. This will set up a stream with the server at one end and the client at the other. If the server just accepts the client directly without this handshake protocol, then any client can connect even if that client has wrong intentions for use of the server.
3. Sockets are preferred over pipes because several reasons. Sockets allow several different methods of streaming data between ends such as read-write and fgets-fputs whereas pipes can only use read and write function calls. Sockets also streams in packets whereas pipes can only stream in set amounts every time so the concept of packets don't apply.