Assignment Overview

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This project is to implement the TCP and UDP protocol, and understand how they work and perform. We need to build a client and a server which communicates to each other with these two protocols. The communication progress is simple, the client needs to reach out to server, and send a request, then it needs to receive response from server. For server, it keeps listening to client requests, and send response once receive the request. The connection and data transfer are the main purpose of this project. TCP protocol first establish connection between client and server, so client and server will respond after receiving the message. However, the UDP is connectionless protocol, so they will not wait for a response after they send the message. As UDP is connectionless, the data transfer speed will be much faster than TCP, however, there might be data loss during the transfer progress. And it might need to resend the data, which may costs even more time than TCP. So by construction two protocols, we can have a deep understanding of advantages and disadvantages of both protocols.