**Client protocol**

1. **Open a control connection** with the server
2. Send a command to the server

Assuming the command will be less than 1,000 characters long:

* First, send a 3 byte string with the length of the command to the server

(ex: “005”, “023”, “256”)

* + Ensure that all 3 bytes are sent by recording the number of bytes successfully sent
* Then, send the command to the server
  + Ensure that the entire command string is sent by recording the number of bytes successfully sent

1. **Open a data connection** with the server
2. Send/receive data to/from server

Depending on the command given, the client will either receive data or send data

We will have a separate Python file with **client functions for each command**

1. **Close the data connection**
2. Repeat steps 2-5 until the “quit” command is sent
3. **Close the control connection**

**Server protocol**

1. Open a **control connection** with the client
2. Listen for a command

Assuming the command will be less than 1,000 characters long:

* Receive a 3 byte string with the length of the command from the client

(ex: “005”, “023”, “256”)

* + Ensure that all 3 bytes are received by counting the number of bytes received and using a temporary buffer
* Given a command length of *N*, receive the command as a string of length *N* from the client
  + Ensure that all *N* bytes are received by counting the number of bytes received and using a temporary buffer

1. **Open a data connection** with the client
2. Send/receive data to/from client

Depending on the command given, the server will either receive data or send data

We will have a separate Python file with **server functions for each command**

1. **Close data connection**
2. Repeat steps 2-5 until the “quit” command is received
3. **Close the control connection**