

Server Pseudocode

Setup Server

```
Create TCP control socket with given host name and port 7005
Wait for connection from Client
If connection fails
    Print error message
    Exit
Else
    Receive packet with GET/SEND command
    If GET
        Handle GET command
    Else IF SEND
        Handle SEND command
```

Connect to DATA channel

```
Connect to client on data port 7006
If connected
    Open connection on port to send file
    Connect
```

Send GET Packet

```
Strip the file name from the requested file
Open a file with the given file name
Create a GET packet with the file name
Send the GET packet over the control socket
If sending failed
    Print Error Message
Else
    Receive Client Response
```

Send SEND Packet

```
Strip the file name from the requested file
Open a file with the given file name
Create a SEND packet with the file name
Send the SEND packet over the control socket
If sending failed
    Print Error Message
Else
    Receive Client Response
```

Handle Send File from Client

```
Receive send packet from the client with file information
Open File path for writing file from client
    If unable to open file
        Send Error packet
```

```
        Print Error Message
    Return
Connect on the Data channel for receiving the file.
While there are chunks to receive
    Read a 1KB chunk from the file
    If reading failed
        Print Error Message
    Return
    If reading finished
        Close file and print msg saying its completed writing
```

Handle GET file from Client

```
Receive GET packet from the client with file information
Find file that client requested
    If not able to open/find
        Send Error Packet
    Else
        Send SEND packet saying that we are sending the file
        Connect on the DATA channel for sending the file
        Calculate the number of 1KB chunks to send using the file size
        While there are still chunks to send
            Send 1KB chunk on the data socket
            If sending failed
                Print Error Message
            Return
```

Receive Client Response

```
Wait for a packet number to arrive
If the packet number is SEND
    Read the SEND packet from the socket
    Receive File with the file size in the SEND packet
Else if the packet number is GET
    Read the GET packet from the socket
    Send file with file size in the GET packet
Else if the packet number is ERROR
    Print Error Message
```

Validate File Name

```
Check that the file exists
Check that the file isn't a directory
If either of these is false
    Print Error Message
```

Print Error Message

```
Print given string to stderr
Return
```