We have decided to use Python for the implementation of socket transfer. Our server sends and receive data using both TCP and UDP protocols. TCP is primarily used for transferring of metadata and UDP is primarily used for transferring of data chunks (pieces of files). A summary of the metadata information is shown below:

|  |  |  |  |
| --- | --- | --- | --- |
| TCP - metadata | | UDP - data | |
| Client | **Server** | **Client** | **Server** |
| File name | Resend data information | Send data chunks | Receive data chunks |
| Total # of blocks |  | Block Index (marks which block # is being transferred) |  |
| Checksum of file |  |  |  |
| Checksum of each block |  |  |  |
| Total Size of file |  |  |  |
| Size of each block |  |  |  |