**Server Functionalities**

In this project a centralized server is created which maintains details of all clients that have been registered. For each client the server stores it’s client id, chunk vector and listening port. In order to let other clients know that a client has a chunk, the server checks its directory and sends the information to the client. Server creates a socket and bind this socket to port 5000. This port is the listening port for this project.

Function declarations

**Listen ()**

- This function is called to wait for incoming connection requests.

**accept ()**

- Server will call accept () function to accept the connection request from clients. The return value of accept () function is a new socket that is used for communication with clients.

**find\_service(char \*, char \*)**

**-** If a client sends the server a query for a file, the server first prints out the client id, and chunk index that client is asking. Server will print out a list of clients who have the chunk, and send the list back to the query client.

**register\_service(char \*)**

- Server reads the message from clients that include client id, listening port, and chunk vector. If the client is not registered from before, the server saves these details in a file.

**Command processing from user**

**-** Server receives only one command from the user, “q”. If user types in this command, the server sends to all connected clients an “exit” message. Server waits all until all clients have closed their connections, then exit finally.   If a client sends a “quit” message to the server, server prints out a message “(client id) at (IP address) has quit,” then close the connection with the client.