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Lab Term Project - P2P Network

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For our project, we were to create a peer-to-peer (P2P) network where a client was essentially coded to act as a server which can send and receive files. Each peer connected to the network is able to synchronize the files on its local folder with the files located on the network using a distributed hash table (DHT). We chose to use the high-level programming language Java and utilized its powerful tools and libraries in order to create our network.

Our project consists of 3 classes. The DHT class serves to create the hash table of files for each peer and allows for the syncing of files. Numerous Java libraries are used in this class such as Socket, ServerSocket, Datagram Packet & Socket, and Hashtable. The p2pNode class establishes the connection, registers the peer on the network (creates a list of local list of files), retrieves the file information from the network index servers of files, syncs the files, and listens for connection to transfer files. A method is also used for unregistering a peer from the network. The mainConsole class serves as the projects main class in order to create console output as well as display console commands to make the project interactive.