* Assignment Overview:

In this assignment, I developed a simple inventory management system using TCP and UDP protocols. The system allows clients to send commands (PUT, GET, and DELETE) to the server. The server handles these commands to update the inventory, which is stored in the form of key-value pairs. I also implemented logging functionality to log all requests and responses with millisecond precision timestamps.

The scope of the assignment is to create a robust sing-threaded network application that can handle common mistaken requests in both connection-oriented and connectionless ways. I learned how to use ServerSocket, DatagramSocket, and DatagramPacket, and I also practiced using the Java logging API. This assignment helped me understand the basics of network programming and how to design a simple protocol.

* Technical Impressions:

I found it challenging to implement UDP model because I had to consider the packet and buffer. In the TCP version, I had to manage a continuous stream of data and ensure that the server can handle multiple commands from the client. However, in the UDP version, I learned how to handle datagram packets and how to make the system respond to malformed packets. One use case for this project is an inventory system for a small retail store or storehouse. The system can run on a local network. This simple design can be scaled up to larger systems with more complex requirements. Overall, this assignment improved my skills in Java Socket programming and helped me identify areas that I would like to improve in future projects.