Deadline: January 28, 2022 (respective classes)

Assignment 1

Implement a key-value store using socket programming. The server implements the key-value store and clients make use of it. The server must accept clients' connections and serve their requests for 'get' and 'put' key value pairs. All key-value pairs should be stored by the server only in memory. Keys and values are strings.

The client accepts a variable no of command line arguments where the first argument is the server hostname followed by port no. It should be followed by any sequence of "get <key>" and/or "put <key> <value>".

./client 192.168.124.5 5555 put city Kolkata put country India get country get city get Institute

India

Kolkata

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The server should be running on a designated port no. The server should support multiple clients and maintain their key-value stores separately. Comment on the port nos used by the server and the clients.

Implement authorization so that only a few clients having the role "manager" can access other's key-value stores. A user is assigned the "guest" role by default. The server can upgrade a "guest" user to a "manager" user.