Networking and Data Communications Lab (CSS652)
6th Semester, 2022-23
End Semester Project

(Projects are allocated according to the team numbers; that means team-1 have to do the question-1, team-2 have to do the question-2 accordingly. These are the concepts to be implemented, possible modifications are expected)

1. Consider a client server application that acts as a **Blood Availability App.** This will be a two layer distributed application. The first layer of servers will deal with the blood group of the patient. Each of the first layer servers will connect to three different servers, each of which will send a request to three different blood banks for that particular blood type. Along with the blood group the client will also send its location. The second layer servers should find the blood bank based on the location. One central server will operate all these individual servers. Implement this application using the concepts you have learned so far.

2. Consider a client server application that acts as a **Digital Library**. This will be a two layer distributed application. The first layer of servers will deal with the language of the books where there will be options for different languages of books. There will be three distributed servers connected with the first layer servers and they will store books of different genres like horror, detective, technical. One central server will operate all these individual servers. Implement this application using the concepts you have learned so far.

3. Consider a client server application that acts as a **Payment Splitting Tool**. There will be a group of people who will contribute together for any payment they made separately. The number of people may vary depending on the availability of them and the amount will always be variable as per spending. Implement this application using the concepts you have learned so far.

4. Consider a client server application that acts as a **Crowdfunding Tool**. This will be a two layer distributed application. The first layer of servers will deal with the payment process- online or offline. All first layer servers will connect the second layer servers, which will be responsible for the collection of funds. For online there will be different types of payment process where for offline there will be different centers for submitting the amounts. Implement this application using the concepts you have learned so far.

5. Consider a client server application that acts as a **Matrix Decomposer**. There will be two distributed servers which will perform the two different computations L matrix and U matrix. One central server will operate these two individual servers and return the matrices to the client. The client should also verify the formula A=LU, where A is the input matrix and L and U are two different matrices. Implement this application using the concepts you have learned so far.

6. Consider a client server application that acts as an **Emergency Hospital Guide**. There will be three distributed servers which will help a patient in three different ways like finding the nearest hospital, sending a message to the ambulance, and intimate the emergency of the selected hospital. One central server will operate these three individual servers. Implement this application using the concepts you have learned so far.

7. Consider a client server application that acts as a **Trip Advisor**. There will be three distributed servers which will perform three different works- Flight Booking, Hotel Booking and Car Booking. One central server will operate these three individual servers. Implement this application using the concepts you have learned so far.

8. Consider a client server application that acts as an **E-Commerce Platform**. There will be three distributed servers which will perform three different works for three types of goods- Cosmetics, Electronics, Garments. One central server will operate these three individual servers. Implement this application using the concepts you have learned so far.

9. Consider a client server application that acts as a **Domestic Flight Booking Site**. There will be three distributed servers which will perform the booking in three different types of flight companies- Indigo, AIr Asia and Spicejet. There will be different relative fares depending upon the distances and for different companies, the fare will vary. One central server will operate these three individual servers. Implement this application using the concepts you have learned so far.

10. Consider a client server application that acts as a **Bank Transaction App.** There will be three distributed servers which will perform three different ways of withdrawal- Cash, Cheque and ATM. One central server will operate these three individual servers. Implement this application using the concepts you have learned so far.