<h1 style="text-align:center">Gift Movie Tickets</h1>

Non-Technical Description of the Application

You need to create an application through which one can gift movie tickets to a guest. The application must work in the following manner:

1. Assume that the movie tickets are available for only a single show. Multiple dates and shows are not required to consider.
2. The tickets are of three categories: **Normal, Deluxe,** and **Premium**. You can book tickets for only one category at a time. Assume that the number of total tickets available are 100, 50, and 30 for Normal, Deluxe and Premium respectively.
3. To purchase tickets one has to place a request to the server along with the email id of the guest, quantity, and the category of the tickets. Note that you do not need to implement any online payment methods here.
4. The server will book tickets and send the necessary information (Ticket numbers and total tickets) to the guest through email.
5. In case of any error during booking the error message will only display on the server side. No acknowledgement (positive or negative) needs to be communicated to the person who has requested to book the ticket.

Technical Description:

Assume that the person who requests for booking is **Client** and the person who receives the ticket through email is **Guest**. The booking process is maintained in a **Server**.

1. Implement a Server (listening at HTTP port) using C and run it in your local machine. The server must be ready to accept new client requests any time. It should not wait for the completion of any current task before accepting a new task. The technical meaning of this is, you have to create a separate thread for every new request arrives at the server. Also, you must terminate the thread when the task is completed. On receiving a request, the server will book the tickets for the guest if enough tickets are available and then send the details to the Guest through email.
2. No coding is required for Client and Guest. To send a booking request to the server you can use the **Curl** command. Curl command can be used (from a terminal) to send HTTP POST/GET requests to a server. The request must have the following parameters: *Guest Name, Quantity,* and *Guest_Email*. Basically a separate terminal will act as a Client and it will send requests to the server through the Curl command.

Challenges:

1. It may be possible that more than one Client tries to book a ticket at the same time. Care must be taken to handle such a real life situation. During the assignment evaluation we will check these types of issues.

2. Understanding the Curl command.
3. Implementing the server and threads.
4. Implementing the technique of sending email from C programming.

Error handling:
The application must display success/error status. Note that all such status is only needed to display on the server side. The mandatory status messages and their formats are mentioned below:
- In case of successful booking:
  <Guest Name> -The ticket booking was successful. Ticket numbers: 03, 04, 05. Total tickets booked 03. Sent to <guest@email.com>
- In case of insufficient tickets:
  <Guest Name>- No sufficient tickets are available in this category.
- In case of invalid/empty email address:
  <Guest Name> - Invalid email address.
- In case of invalid/empty quantity.
  <Guest Name> - Invalid quantity requested.

Expectations:
All the conditions mentioned above will be checked during the evaluation. No technical doubts will be cleared. If any concepts required for this assignment is not discussed in class then it will be your responsibility to understand the concept from the Internet.

-------------------All the Best--------------