**Lab Midterm Assignment**

1. Make a class named **Star\_Cinema** which will have one class attribute named **hall\_list** which is an empty list initially. Make a method named **entry\_hall()** to insert an object of class **Hall** (Described below) inside its **hall\_list**. **(5)**
2. Make a class named **Hall** which will have 5 instance attributes given below
   1. **seats** which is an dictionary of seats information
   2. **show\_list** which is an list of tuples
   3. **rows** which is the row of the seats in that hall
   4. **cols** which is the column of the seats in that hall
   5. **hall\_no** which is the unique no. of that hall

Initialize an object of class **Hall** with **rows**, **cols** and **hall\_no**. And insert that object to the **Star\_Cinema** class attribute named **hall\_list** inside the initializer using **inheritance**. **seats** and **show\_list** will be empty initially. **(20)**

1. Make a method in **Hall** class named **entry\_show()** which will take **id**, **movie\_name** and **time** in string format. Make a tuple with all of the information and append it to the **show\_list** attribute. Allocate seats with **rows** and **cols** using 2d list, initially all seats will be free. Make a key with **id** to the attribute **seats** and value will be the 2d list.

**(10)**

1. Make a method in **Hall** class named **book\_seats()** which will take the customer name, phone number, an **id** of the show and list of tuples where every tuple contains the **row** and **col** of the seat. You need to check the **id** of the show, and book the seats. **(10)**
2. Make a method in **Hall** class named **view\_show\_list()** which will view all the shows running. **(5)**
3. Make a method in **Hall** class named **view\_available\_seats()** which will take an **id** of show, and view the seats that are available in that show **(10)**
4. Make a replica system so that the counter can view all shows that are running, view available seats in a show and can book tickets in a show. **(20)**
5. You need to handle the errors, for example- **(10)**
   1. If someone gives a wrong **id** of a show
   2. If someone tries to book a seat that is invalid
   3. If someone tries to book a seat that is already booked
6. Make the information of the classes as protected/private as you can so that the attributes can’t be accessed outside the class. **(10)**