

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
 - a. **seats** which is an dictionary of seats information
 - b. **show_list** which is an list of tuples
 - c. **rows** which is the row of the seats in that hall
 - d. **cols** which is the column of the seats in that hall
 - e. **hall_no** which is the unique no. of that hallInitialize 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)
3. 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)
4. 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)
5. Make a method in **Hall** class named **view_show_list()** which will view all the shows running. (5)
6. 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)
7. 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)
8. You need to handle the errors, for example- (10)
 - a. If someone gives a wrong **id** of a show
 - b. If someone tries to book a seat that is invalid

- c. If someone tries to book a seat that is already booked
9. Make the information of the classes as protected/private as you can so that the attributes can't be accessed outside the class. **(10)**