Python Mid-Term Assignment

What you need to submit : code github link

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Note: ভিডিওতে যদিও রিপো প্রাইভেট রাখতে বলা হয়েছে। আপনি গিটহাব রিপোটা পাবলিক রেখে দিবেন এবং রিপো পাবলিক রাখলে **Collaborator** এ এড করতে হবেনা।

100 marks deadline : 7 october 11:59pm
90 marks deadline : 8 october 11:59pm
80 marks deadline : any time after that

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 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)**

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 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)**