# UML- Assignment

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## Scenario Description

Shenzhen Poly Theater often arranges many performances. Visitors can check the performances of the venue and buy tickets. Now we need your help to design a performance reservation system. The specific requirements are as follows:

1. Visitors can search all the performances on sale. Each performance includes the name of the performance and the introduction of the performance.
2. Each performance has different sessions. Each session includes the specific time, date, number of remaining tickets, and ticket prices of different levels.
3. Visitors can book tickets. The ticket booking process is to select a session, open the seat map, select one or more specific seats, and pay according to the seat price. Before payment, visitor must enter his/her basic information including name and mobile phone number.
4. Visitors can check their reservation records, which include the name of the performance, time, date, seat number, visitor information, total amount, number of tickets, and the status of reservation records.
5. The status of reservation records includes: ordered, paid, cancel, expired, etc.
6. Visitors can also cancel the order before the performance.
7. The administrator needs to do identity authentication before logging into the system. For example, administrator should enter username and password
8. Administrator can obtain all reservation records within a date range.
9. Administrator can publish and update performances, and can also manage the session for a performance. When canceling a specific session, the status of reservation record becomes canceled, and the payment amount will be refunded to the visitor.

### Definition of Terms

Visitor 游客

Administrator 管理员

Performance 演出

Session 场次

Reservation record 预定记录

## Question 1: Use case diagram（40 points）

Draw a user case diagram according to the scenario above. The use case diagram should contains actors, use case and system boundary.

# Question 2: Class diagram（60 points）

Find and draw all **entity class** according to the scenario above. In this sections you need to indicate the **class names**, **relevant attributes**,  **methods** (in the table below) and the **relationship between classes**.

During your design ,if you need a control class for system control, you can design a control class named `PerformSystem`. If you think it is no need to add an additional control class, you can only submit the entity classes.

**Only the following methods need to appear in class diagram.** For each method, you should add some explanations about its arguments, return value.

| Method Name | Return Value | Parameter | Describe |
|---|---|---|---|
| searchReserveRecord | `<T extends Collection>` | None | Visitor view his/her own reservation records. |
| cancel | boolean | Design by yourself | Visitor cancel one reservation record. |
| reserve | boolean or Record type | Design by yourself, it should contain session info, price info and count of tickets | Visitor make a reservation rocord. |
| releasePerformance | boolean or Performance type | Design by yourself | Administrator release a perform. |
| updatePerformance | boolean | Design by yourself | Administrator updates one perform. |
| createSession | boolean or Session type | Design by yourself | Administrator create a session |
| updateSession | boolean | Design by yourself | Administrator updates one session |
| cancelSession | Design by yourself | Design by yourself | Administrator cancel one session |
| viewRecord | `List` | should have start date and end date | Administrator view all record by date |

# What to Submit?

Complete all the questions and combine the UML diagrams into a single PDF file before Oct. 28th 23:00 pm. If necessary, given several explanations about your diagrams.

**Any handwriting UML diagrams are not allowed for this assignment.**

**Your diagram should be as clear and understandable as possible, without overlapping lines.**