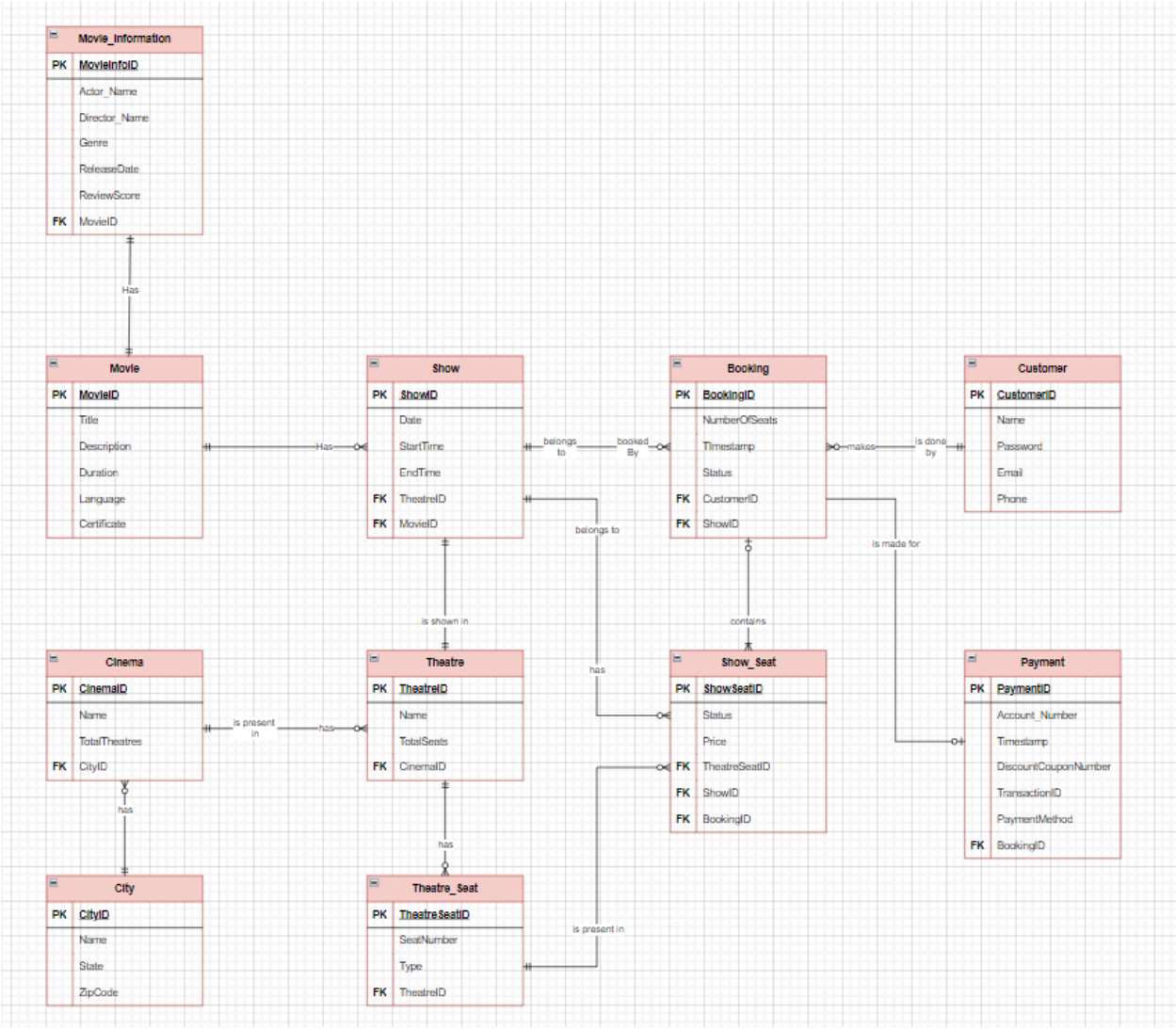
DAMG6210
GROUP: 16

P2. DATABASE DESIGN & INITIAL ERD



The key objectives of the database include:

1. Movie Information Management.
2. Director and Actor Information.
3. Screen and Seat Management.
4. Customer Information.
5. Showtime Scheduling.
6. Booking and Payment Handling.

Entities and Attributes

1. **Movie**
    a. Gives information like name of the movie, description of the movie, Duration, Language and Certificate Assigned.
2. **Movie Information**
    a. Has attributes such as Actor Name, Director Name, Genre, Release Date, Review Score
3. **Show**
    a. Has attributes such as Date and Show times
4. **Booking**
    a. Has attributes such as Number of seats booked, Status of booking, and Timestamp of booking
5. **Customer**
    a. Has attributes for a customer profile like name, password, email and phone number
6. **Cinema**
    a. Has the name and total theatres it has and the city it is present in
7. **Theatre**
    a. Has the theatre number (also called screen), and tells how many seats it has
8. **Theatre Seat**
    a. Is a table for the seats in the theatre, shows the seat number and seat type (silver, gold, executive etc)
9. **City**
    a. Gives the location of the cinema halls, tells us the city name, state and zipcode
10. **Show Seat**
    a. Tells the status of the seat (booked, available, reserved etc) and tells the price of that seat for a movie
11. **Payment**

a. Gives us the account details used to pay for the booking, the payment mode, transaction Id, timestamp of transaction and discount coupon information if any

Relationships

1. **Movie and Movie_Information have a mandatory one to mandatory one relation**. This states that a movie must have one information table and a row information table can belong to only one movie
2. **Movies and Show have a mandatory one to optional many relation.** This states that a movie can have many shows, if any.
3. **Show and Theatre have a mandatory one to mandatory one relation.** This states that a show has can be in one theatre only and a theatre can have only one show at a time.
4. **Theatre and Theatre_Seat have a mandatory one to optional many relation.** This states that a theatre can have many seats but all those seats belong to one theatre mandatorily.
5. **Theatre and Cinema Hall have a optional many to mandatory one relation.** This states that a cinema hall can have may theatres but a theatre only belongs to one cinema hall.
6. **Cinema Hall and City have a optional many to mandatory one relation.** This states that a city can have many cinema halls but the hall belongs to one city at a time only.
7. **Show and Show_Seat have a mandatory one to optional many relation.** This states that a show may have many seats but show seats can belong only to one show at a time.
8. **Theatre_Seat and Show_Seat have a mandatory one to optional many relation.** This states that theatre seats can be many show seats but a show seat is always a theatre seat.
9. **Show and Booking have a a mandatory one to optional many relation.** This states that a show can have many bookings but a booking has to be made only for one show.
10. **Booking and Show Seat have a optional one to mandatory many relation.** This states that a booking if done always has one or more seats and Show_Seats may or may not be a part of a booking.

11. **Booking and Customer have a optional many to mandatory one relation.** This states that one booking can be made by customer only but a customer may make none or one or many bookings.
12. **Booking and Payment have a one to optional one relation.** This states that a booking may have one payment (in case its a free ticket), but a payment can be made only for one booking at a time.