

**IZMIR INSTITUTE OF TECHNOLOGY DEPARTMENT OF COMPUTER ENGINEERING**

**TERM PROJECT:**

**“HOTEL MANAGEMENT**

**SYSTEM DATABASE”**

By: **GROUP 18**

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**All Entities and Their Attributes**

**Customer** (customerID, first\_name, last\_name, gender, birth\_date, nationalID, age, address, phone)

**Employee** (employeeID, first\_name, last\_name, gender, birth\_date, age, address, phone)

**EmployeeType** (type\_name, salary)

**Booking** (bookingID, bookerID, customers, booking\_date, enter\_date, exit\_date)

**Room** (roomID, status, phone)

**RoomType** (type\_name, description)

**Image** (image\_name)

**RoomPrice**(date\_from, date\_to, price)

**Comment**(commentID, description, score)

**Relationship Sets**

**r\_room\_type** (type\_name, roomID); // total participation one-to-many

**r\_book\_room** (roomID, bookingID); // many-to-many

**r\_bill** (bookingID, customerID, bill\_time, paid\_time, total\_price, exp\_time, payment\_method, status());

// total participation many-to-many

**r\_book\_item**(bookingID, customerID) // many-to-many

**r\_image** (image\_name); // one-to-many

**r\_employee\_type** (employeeID, employee\_type); // total participation one-to-many

**r\_room\_comment** (roomID, commentID); // one-to-many

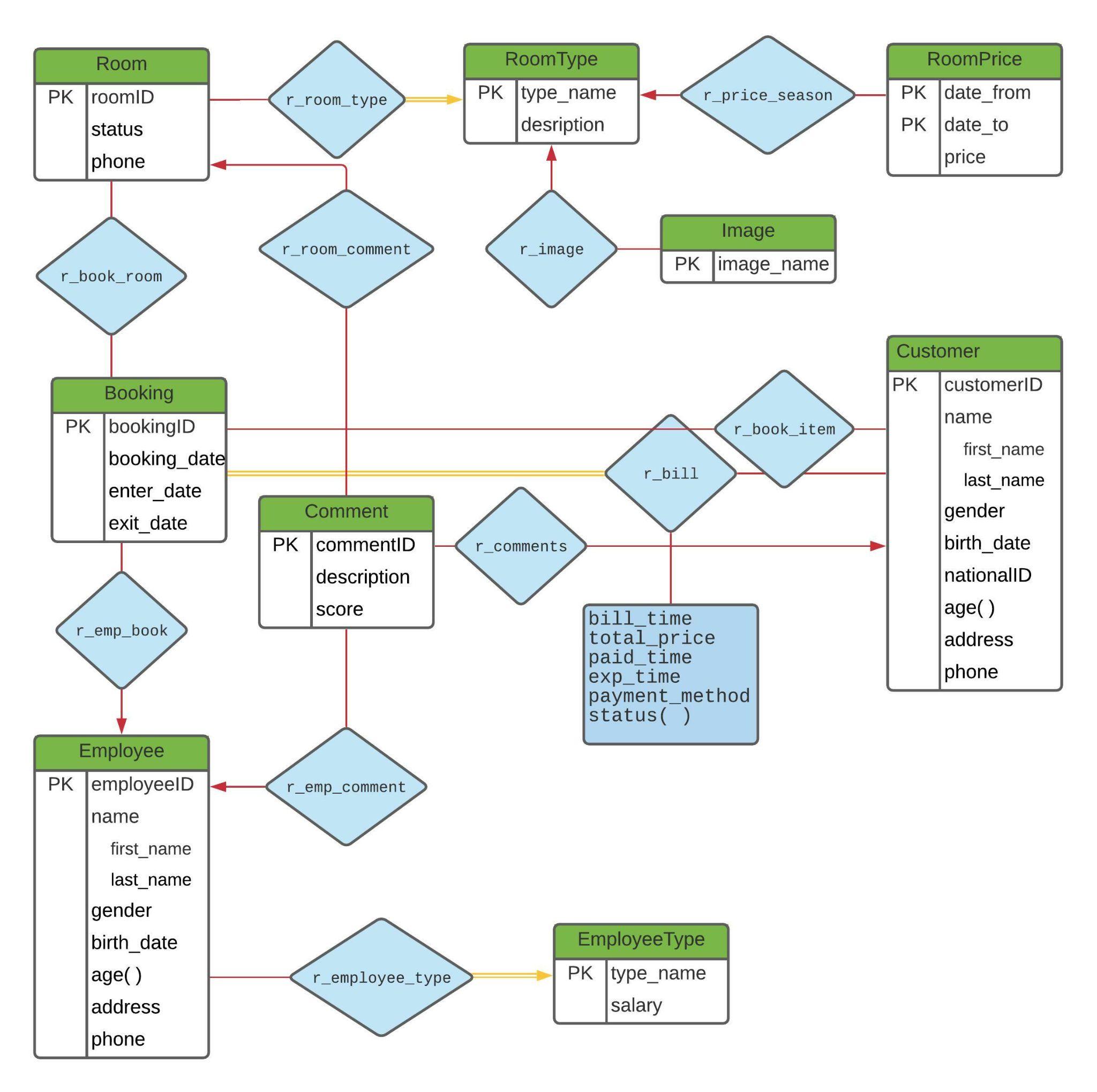
**r\_emp\_comment** (employeeID, commentID); // one-to-many

**r\_comments** (customerID, commentID): // one-to-many

**r\_price\_season**(type\_name, date\_from, date\_to); // one-to-many

**r\_emp\_book** (bookingID, employeeID); // one-to-many

**ER Diagram**

****[Diagram Link](https://lucid.app/lucidchart/b7f60037-6fa3-487e-b899-4cc250cd3623/edit?invitationId=inv_53ea57b9-6b86-4c2d-8d5a-d9e76ca78546)

**System Users**

• People who want to stay at hotel,

• Person who wants to run and manage a hotel,

• People who want to work in a hotel (receptionist…) .

**Business Rules**

Room/ Room Type

• A room cannot have more than one room type.

• A room type can describe more than one room.

Room/ Booking

• A booking may contain more than one room.

• A room may be included in more than one booking.

Booking/ Customer - (r\_bill)

• A customer can make many booking

Booking/ Customer - (r\_book\_item)

• A booking may include many customer

Room Type/ Image

• A room type may have many images.

• An image must be for one room type.

Employee/Employee Type

• An employee must have one employee type.

Room/ Comment

• A comment must have one room.

• A room may have many comments.

Employee/ Comment

• A comment must have one employee.

• An employee may have many comments.

Comment/ Customer

• A comment must have one customer.

• A customer may make many comments.

PriceSeason/ Room Type

• A room must have one price season.

• A price season may be used by many room types.

Employee/Booking

• An employee may be in relation with may booking.

• A booking may not be booked by more than one employee.

**Relational Schemas**

**ERD to Relational Schema**

Step 1:

**Customer** (customerID, first\_name, last\_name, gender, birth\_date, nationalID, age, address, phone)

**Employee** (employeeID, first\_name, last\_name, gender, birth\_date, age, address, phone)

**EmployeeType** (type\_name, salary)

**Booking** (bookingID, bookerID, customers, booking\_date, enter\_date, exit\_date)

**Room** (roomID, status, phone)

**RoomType** (type\_name, description)

**Image** (image\_name)

**RoomPrice**(date\_from, date\_to, price)

**Comment**(commentID, description, score)

**r\_room\_type** (type\_name, roomID); // total participation one-to-many

**r\_book\_room** (roomID, bookingID); // many-to-many

**r\_bill** (bookingID, customerID, bill\_time, paid\_time, total\_price, exp\_time, payment\_method, status());

// total participation many-to-many

**r\_book\_item**(bookingID, customerID) // many-to-many

**r\_image** (image\_name); // one-to-many

**r\_employee\_type** (employeeID, employee\_type); // total participation one-to-many

**r\_room\_comment** (roomID, commentID); // one-to-many

**r\_emp\_comment** (employeeID, commentID); // one-to-many

**r\_comments** (customerID, commentID): // one-to-many

**r\_price\_season**(type\_name, date\_from, date\_to); // one-to-many

**r\_emp\_book** (bookingID, employeeID); // one-to-many

Step 2:

**Customer** (customerID, first\_name, last\_name, gender, birth\_date, nationalID, age, address, phone)

**Employee** (employeeID, first\_name, last\_name, gender, birth\_date, age, address, phone, type\_name)

**EmployeeType** (type\_name, salary)

**Booking** (bookingID, bookerID, booking\_date, enter\_date, exit\_date, employeeID)

**Room** (roomID, status, phone, type\_name)

**RoomType** (type\_name, description)

**Image** (image\_name, type\_name)

**RoomPrice**(date\_from, date\_to, price, type\_name)

**Comment**(commentID, description, score, roomID, employeeID, customerID)

**r\_room\_type** ~~(type\_name, roomID); // total participation one-to-many~~

**r\_book\_room** (roomID, bookingID); // many-to-many

**r\_bill** (bookingID, customerID, bill\_time, paid\_time, total\_price, exp\_time, payment\_method, status());

// total participation many-to-many

**r\_book\_item**(bookingID, customerID) // many-to-many

**r\_image** ~~(image\_name); // one-to-many~~

**r\_employee\_type**~~(employeeID, employee\_type); // total participation one-to-many~~

**r\_room\_comment**~~(roomID, commentID); // one-to-many~~

**r\_emp\_comment** ~~(employeeID, commentID); // one-to-many~~

**r\_comments** ~~(customerID, commentID): // one-to-many~~

**r\_price\_season**~~(type\_name, date\_from, date\_to); // one-to-many~~

**r\_emp\_book** ~~(bookingID, employeeID); // one-to-many~~

Step 3:

**Customer** (customerID, first\_name, last\_name, gender, birth\_date, nationalID, age, address, phone)

**Employee** (employeeID, first\_name, last\_name, gender, birth\_date, age, address, phone, type\_name)

**EmployeeType** (type\_name, salary)

**Booking** (bookingID, bookerID, booking\_date, enter\_date, exit\_date, employeeID)

**Room** (roomID, status, phone, type\_name)

**RoomType** (type\_name, description)

**Image** (image\_name, type\_name)

**RoomPrice**(date\_from, date\_to, price, type\_name)

**Comment**(commentID, description, score, roomID, employeeID, customerID)

**r\_book\_room** (roomID, bookingID); // many-to-many

**r\_bill** (bookingID, customerID, bill\_time, paid\_time, total\_price, exp\_time, payment\_method, status());

// total participation many-to-many

**r\_book\_item**(bookingID, customerID) // many-to-many

**Screenshots**

1. After executing script in oracle live sql. (There are 12 statements that tries to drop tables before creation. That is the reason of 12 warnings.)

~~Graphical user interface, application

Description automatically generated~~

2) Schema

Graphical user interface, application

Description automatically generated

3) The console output, after script is run in worksheet.

ORA-00942: table or view does not exist

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