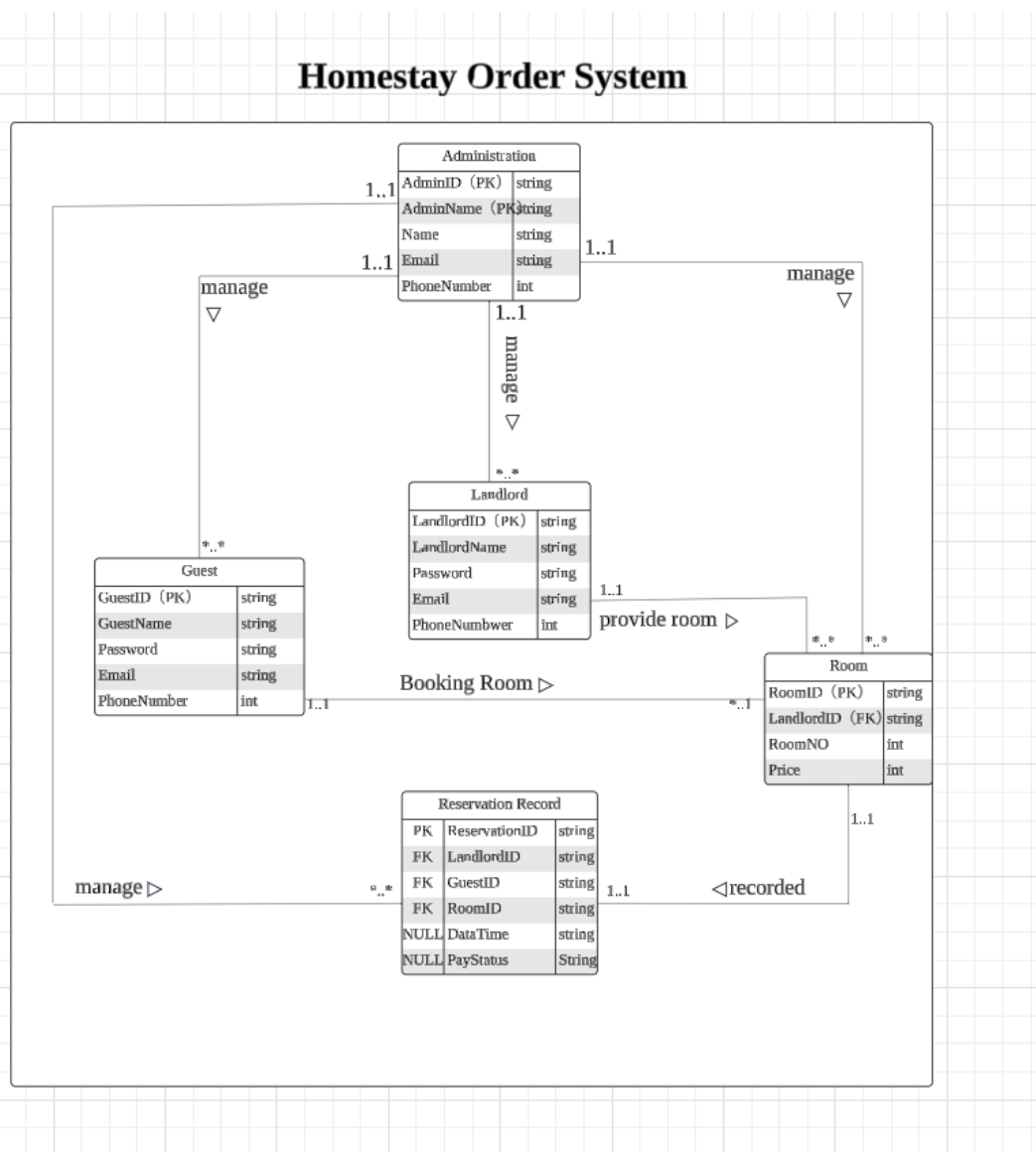


## Logical ERD



### Entities:

**Administration:** Represents system administrators who manage all entities. (1 .. \*)

**Landlord:** Represents landlords who provide rooms. (1 .. \*)

**Guest:** Represents guests who book rooms through. (1 .. \*)

**Room:** Represents rooms provided by landlords. (1 .. \*)

**Reservation Record:** Record guest reservations and room information provided by hosts, connecting guests, landlord and rooms. (1 ..1)

## Relational Database Schemas (Normalized up to BCNF)

### Primary Key in 1NF Table:

{AdminID, LandlordID, GuestID, RoomID, ReservationID }

**FD1:** AdminID —> AdminName, name, email, phone

**FD2:** LandlordID —> landlordName, email, phone, password

**FD3:** GuestID —> GuestName, email, password, phone

**FD4:** RoomID —> RoomNo, Price, LandlordID,

**FD5:** ReservationID —> AdminID, LandlordID, GuestID, RoomID, Datetime, Paystatus,

### BCNF:

#### Administration

(AdminID, AdminName, Name, Email, PhoneNumber)

#### Landlord

(LandlordID, LandLordName, Password, Email, PhoneNumber)

#### Guest

(GuestID, GuestName, Password, Email, PhoneNumber)

#### Room

(RoomID, RoomNo, LandlordID, Price)

#### Reservation

(ReservationID, LandlordID, GuestID, RoomID, Date Time, Paystatus)

## Data dictionary

### Administration

Attribute	Type	Description
AdminID(PK)	String	Unique identifier for administrators.
AdminName(PK)	String	Unique username for administrators.
Name	String	Administrator's name.
Email	String	Contact email of the administrator.
PhoneNumber	Int	Contact phone number of the administrator.

### Landlord

Attribute	Type	Description
LandlordID(PK)	String	Unique identifier for landlords.
LandlordName(PK)	String	Unique username for landlords.
Password	String	Password for landlord login.
Email	String	Contact email of the landlord.
PhoneNumber	Int	Contact phone number of the landlord.

### Guest

Attribute	Type	Description
GuestID(PK)	String	Unique identifier for guests.
GuestName(PK)	String	Unique username for guests.
Password	String	Password for guest login.
Email	String	Contact email of the guest.
PhoneNumber	Int	Contact phone number of the guest.

### Room

Attribute	Type	Description
RoomID(PK)	String	Unique identifier for rooms.
LandlordID(FK)	String	Foreign key linking to Landlord.
RoomNo	Int	Room number
Price	Int	Price about the room.

### Reservation Record

Attribute	Type	Description
ReservationID(PK)	String	Unique identifier for reservations.
LandlordId(FK)	String	Foreign key linking to Landlord.
GuestID(FK)	String	Foreign key linking to Guest.
RoomID(FK)	String	Foreign key linking to Room.
DateTime	String	Date and time of reservation.
Paystatus	String	Payment status: Pending or Completed.