

# Relational Schema

## Entities

1. **User** (user\_id, email, password, first\_name, last\_name, phone\_number, registration\_date)
2. **Property** (property\_id, owner\_id, title, description, location, price\_per\_night, amenities, availability\_start\_date, availability\_end\_date)
  - Foreign Key(owner\_id) references User
3. **Property Type**(type\_id, name)
4. **House**(type\_id)
  - Foreign Key(type\_id) references Property Type
5. **Apartment**(type\_id)
  - Foreign Key(type\_id) references Property Type
6. **Townhouse**(type\_id)
  - Foreign Key(type\_id) references Property Type
7. **Condo**(type\_id)
  - Foreign Key(type\_id) references Property Type
8. **PropertyPhoto** (photo\_id, property\_id, photo\_url)
  - Foreign Key(property\_id) references Property
9. **Favorite** (favorite\_id, user\_id, property\_id, date\_saved)
  - Foreign Key(user\_id) references User
  - Foreign Key(property\_id) references Property
10. **Booking** (booking\_id, user\_id, property\_id, start\_date, end\_date, num\_guests, total\_price, booking\_date, status)
  - Foreign Key(user\_id) references User
  - Foreign Key(property\_id) references Property
11. **Review** (review\_id, user\_id, property\_id, rating, review\_text, review\_date)
  - Foreign Key(user\_id) references User
  - Foreign Key(property\_id) references Property
12. **School**(school\_id, name, location)

## Relationships

1. **User Owns Property**(user\_id, property\_id)
  - Users to Properties (One-to-many) users can own multiple properties.
  - Foreign Key(user\_id) references User
  - Foreign Key(property\_id) references Property
2. **User Makes Booking**(user\_id, booking\_id)

- Users to Bookings (One-to-many) users can make multiple bookings.
- Foreign Key(user\_id) references User
- Foreign Key(booking\_id) references Booking
- 3. **Property Contains Photo(property\_id, photo\_id)**
  - Properties to Photos (One-to-many) each property can have multiple photos
  - Foreign Key(property\_id) references Property
  - Foreign Key(photo\_id) references Property Photo
- 4. **User Marks Favorite(user\_id, property\_id)**
  - Users to Favorites (Many-to-many) users can save multiple properties as favorites
  - Foreign Key(user\_id) references User
  - Foreign Key(property\_id) references Property
- 5. **Property Has Favorite(property\_id, favorite\_id)**
  - Property to Favorites(One-to-many). Each property can have multiple favorites.
  - Foreign Key(property\_id) references Property
  - Foreign Key(favorite\_id) references Favorite
- 6. **Property Has Booking(property\_id, booking\_id)**
  - Properties to Bookings (One-to-many) a property can have multiple bookings
  - Foreign Key(property\_id) references Property
  - Foreign Key(booking\_id) references Booking
- 7. **Property Has Review(property\_id, review\_id)**
  - Properties to Reviews (One-to-many) a property can have multiple reviews.
  - Foreign Key(property\_id) references Property
  - Foreign Key(review\_id) references Review
- 8. **User Writes Review(user\_id, review\_id)**
  - Users to Reviews (One-to-many) a user can write multiple reviews
  - Foreign Key(user\_id) references User
  - Foreign Key(review\_id) references Review
- 9. **User Likes Review(user\_id, review\_id)**
  - Users to Reviews (One-to-many) a user can like multiple reviews
  - Foreign Key(user\_id) references User
  - Foreign Key(review\_id) references Review
- 10. **Property Is Type(property\_id, type\_id)**
  - Property to Property Type (One-to-One) a property has a property type
  - Foreign Key(property\_id) references Property
  - Foreign Key(type\_id) references Property Type