

Project Outline:

I will be making a database representing a hotel. I will include customers, managers, rooms, rewards programs, and different hotel locations. Customers stay in a room, rooms are at a location and managed by a manager, and customers participate in any number of rewards programs.

[URL: http://flip3.engr.oregonstate.edu:4343](http://flip3.engr.oregonstate.edu:4343)

Database Outline:

The entities in my database are:

- Customer -- This is the primary entity It has the following attributes:
 - id : This is automatically assigned; it's an auto-incrementing integer.
 - firstname : Customer's first name. It is a variable length character string with a maximum length of 100. It cannot be null.
 - lastname : Customer's last name. It is a variable length character string with a maximum length of 100. It cannot be null.
 - ccnumber : Credit card number. It is a variable length character string with a maximum length of 20.
 - room : The room in which the customer is staying. This cannot be blank, since having a room is a prerequisite to being a customer of the hotel. This will contain the room id, which must exist in the room table.
- Manager — Each manager will be stored in their own table.
 - id : This is automatically assigned; it's an auto-incrementing integer.
 - firstname : Manager's first name. It is a variable length character string with a maximum length of 100. It cannot be null.
 - lastname : Manager's last name. It is a variable length character string with a maximum length of 100. It cannot be null.

My annotated project did not request that I make any fixes

- Room -- Each room will be stored in the “Room” table. It has the following attributes:
 - id : This is automatically assigned; it’s an auto-incrementing integer. This is the same as the room’s number.
 - style : Style of the room. This is a variable length character string (max: 100).
 - floor : The floor the room is on. It is an integer. Cannot be null.
 - location : The location the room is in. It references a location id and cannot be null.
- Rewards program -- Different rewards programs are contained in this table.
 - id : This is automatically assigned; it’s an auto-incrementing integer.
 - name : Name of the rewards program (variable length string, max: 100). Cannot be null.
 - discount : The discount rate for the program. This is an integer, i.e. “5” for “5% off”.
- Location -- This table contains all the hotel’s locations.
 - id : This is automatically assigned; it’s an auto-incrementing integer.
 - name : Name of the location (variable length string, max: 100). Cannot be null.
 - city : Name of the city the location is in (variable length string, max: 100).

The relationships in my database are:

- Customers occupy rooms– A customer can only stay in one room, and each room only holds one person, so this is a one to one relationship.
- Rooms are at hotel locations – This is a many to one relationship, since each location has many rooms, but each room is in only one location.
- Customers participate in rewards programs– This is a many to many relationship as each customer can participate in many rewards programs, and each rewards program has many customers.
- Managers are in charge of rooms – Each manager is in charge of multiple rooms, but each room is only managed by one manager (this is a one to many relationship).



