


Course Title:	Fundamentals of Data Engineering
Course Number:	COE 848
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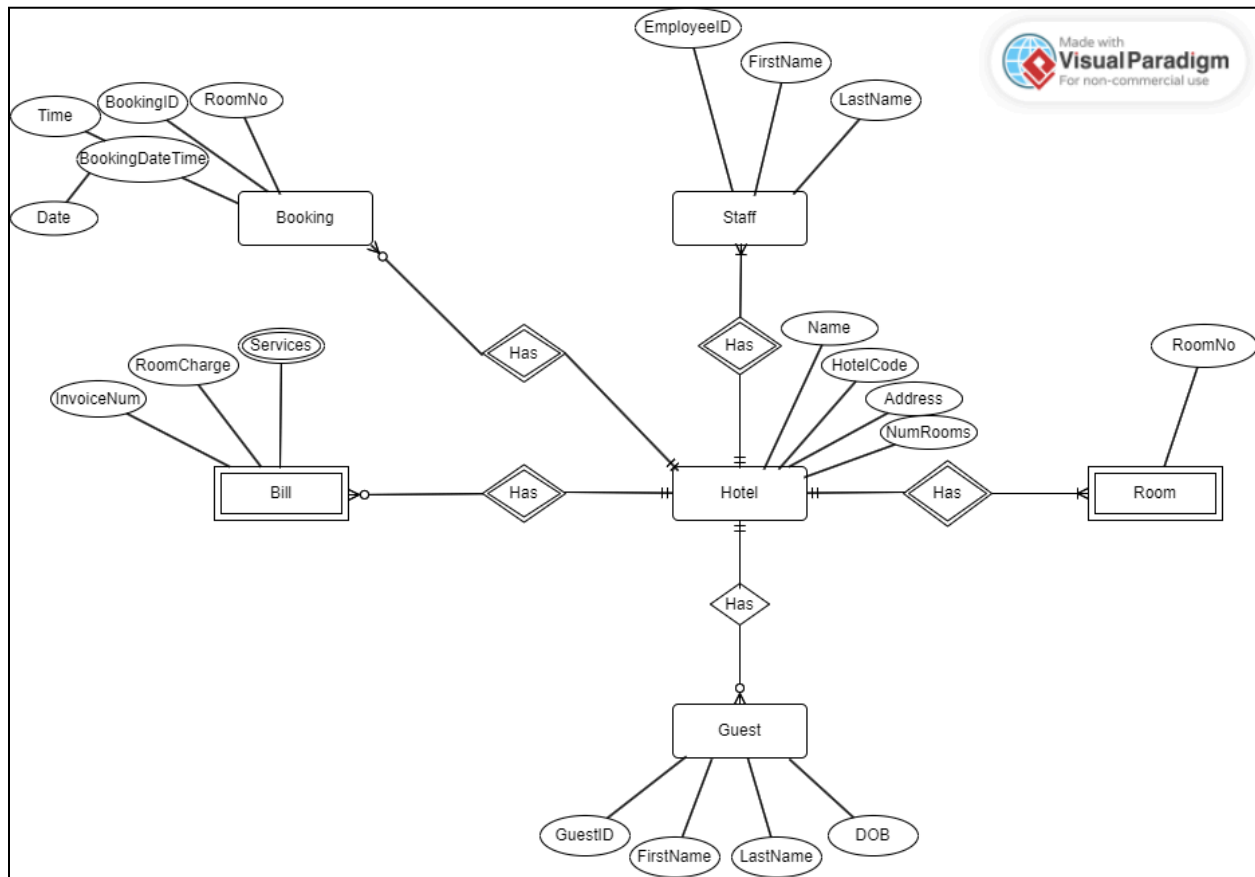
<i>Assignment/Lab Number:</i>	2
<i>Assignment/Lab Title:</i>	Entity-Relationship Diagram Design

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Entity Relationship Diagram



Entities

- Hotel: Contains rooms, staff, customers and resources.
- Staff: Performs duties within the hotel and receives salary.
- Room: Contains staff and customers.
- Guest: Interacts with the hotel by purchasing rooms and services.
- Booking: Reservation for a room made by a guest.
- Bill: List of expenses made by guests to be given to them at the end of their booking.

Attributes

Hotel

- HotelCode: primary key for the hotel entity.
- Name: hotel name.
- Address: address of hotel.
- Postcode: postal code of the hotel.
- City: city that hotel is located in.
- Country: country that hotel is located in.
- NumRooms: number of rooms within the hotel.

- DeskPhone: desk phone number of the hotel.
- ManagementPhone: management phone number of the hotel.
- StaffCount: number of staff within the hotel.
- EstablishmentDate: date hotel was established.

Staff

- EmployeeID: primary key for the staff entity.
- HotelCode: foreign key for the hotel the staff works at.
- FirstName: first name of the staff member.
- LastName: last name of the staff member.
- DOB: date of birth of staff member.
- Gender: gender of staff member.
- Email: email of the staff member.
- Phone: phone number of staff member.
- Password: password of staff corporate email account.
- Position: position of the staff member within the hotel.
- Salary: hourly rate of pay of staff member

Room

- RoomNo: room number.
- RoomType: type of room.
- HotelCode: foreign key to hotel this room belongs to
- Occupancy: number of members officially staying in this room.
- Services: list of services provided to this room

Guest

- GuestID: primary key of the guest entity.
- BookingID: foreign key to booking entity.
- GuestTitle: title of the guest.
- FirstName: first name of guest.
- LastName: last name of guest.
- DOB: date of birth of guest.
- Gender: gender of guest.
- Email: email of guest.
- Phone: phone number of guest.
- Password: password of guest.
- PassportNo: passport number of guest.
- Address: address of guest.
- City: city of guest.
- Country: country of guest.

Booking

- BookingID: primary key for the booking entity.
- HotelCode: foreign key for the hotel.
- RoomNo: room number of booking
- GuestID: foreign key of guest
- BookingDateTime: date and time of booking

- CheckinDateTime: date and time of checking into the hotel by the guest.
- CheckoutDateTime: date and time the guest checked out of the hotel.
- NumAdults: number of adults included in booking.

Bill

- InvoiceNum: invoice number of bill.
- BookingID: foreign key to booking the bill is for.
- GuestID: foreign key to the guest bill is for.
- RoomCharge: charge for the room.
- Services: services included in the bill.
- PaymentDate: date of payment.
- PaymentMode: mode of payment.
- ExpireDate: date of expiry of bill.
- ChequeNo: cheque number.
- Employees: employees involved in the bill.

Relationships

- 1..1 Hotels contains 1..many Room
- 1..1 Hotels contains 1..many Staff
- 1..1 Hotels contains 1..many Guest
- 1..1 Hotels contains 1..many Resource
- 0..many Hotels have 0..many Expense
- 1..1 Guest has made 1..many Booking
- 1..1 Guest has 1..1 Bill
- 0..1 Booking has 1..many Bill