Lodging Database

CSI2132 B

Faculty of Engineering
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Group 22

Cory Maklin 7767320
Xiuzhu Li 8571645

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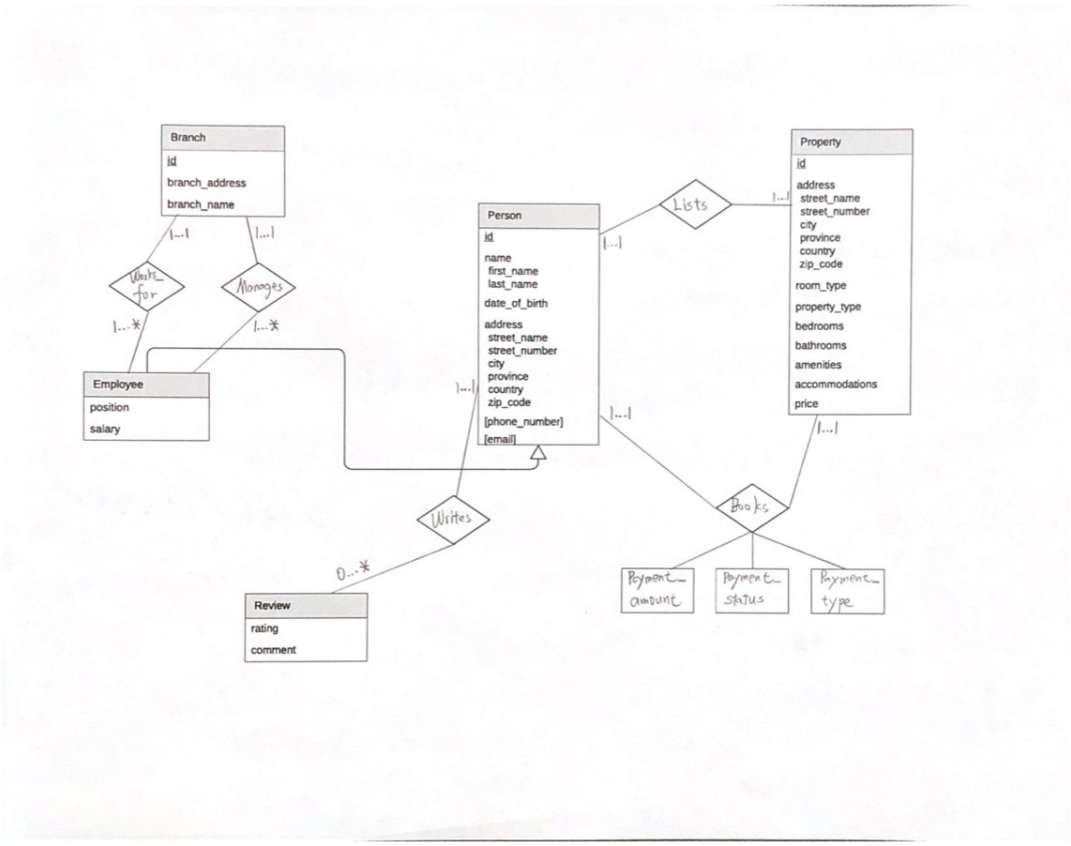
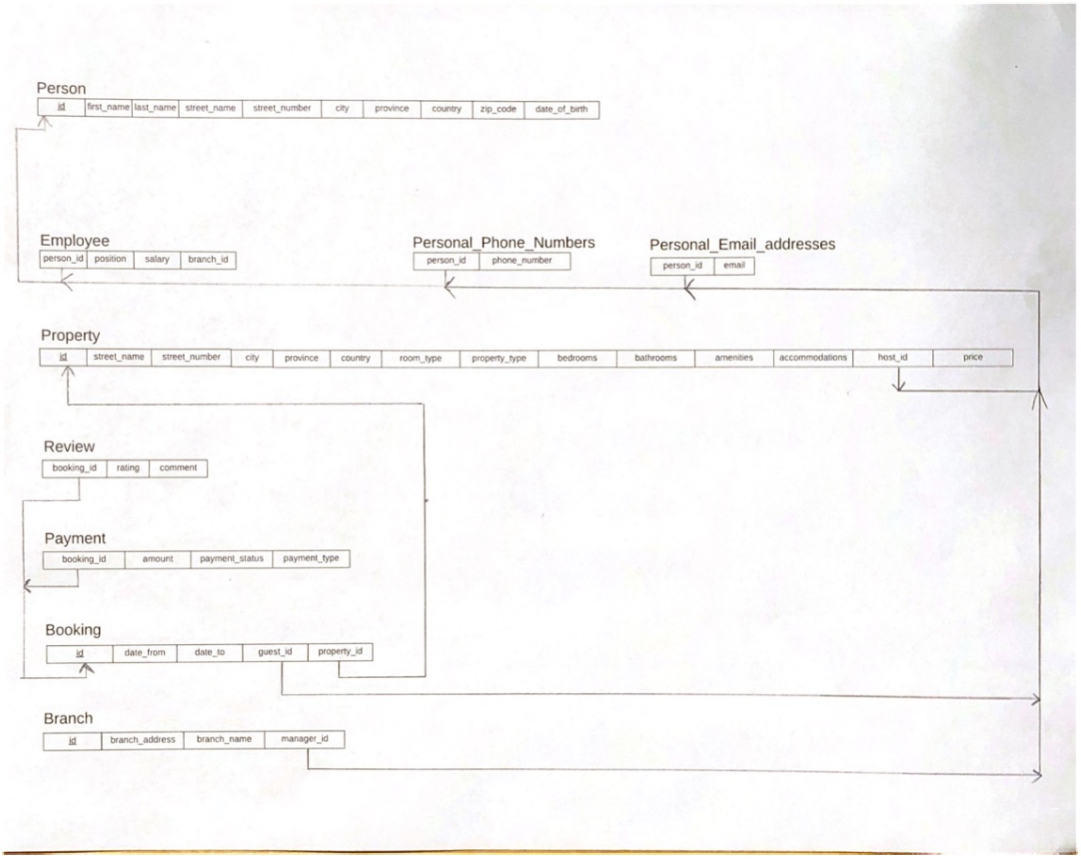
Entity Relationship Diagram



Relational Model



Constraints

1. The id should be unique for each Person record to differentiate between people with the same name (primary key constraint).
2. The id should be unique for each Property record (primary key constraint).
3. The id should be unique for each Branch record (primary key constraint).
4. The id should be unique for each Booking record (primary key constraint).
5. The value of room_type in a Property record must be one of the values in the set {private room, shared room, entire property}to facilitate filtering of search results (domain constraint).
6. The value of property_type in a Property record must be one of the values in the set {apartment, home, cottage, bed & breakfast} to facilitate filtering of search results (domain constraint).
7. The value of payment_type in a Payment record must be one of the values in the set {cash, check, direct debit, credit card} to facilitate filtering of search results (domain constraint).
8. The value of payment_status in a Payment record must be one of the values in the set {pending, completed, approved} to determine whether the guest has compensated the host (domain constraint).
9. Every record in Property must have a value for address so that guests can locate the property (entity integrity constant).
10. A Review record must have a rating between 1 and 5 since it's a 5-star rating system (general semantic integrity constraint).
11. Every record in Booking must have a value for date_from and date_to in order to determine how long a guest will be staying at a given property (entity integrity constraint).
12. Every record in Payment must have a value for amount in order to determine the total amount owed by the guest (entity integrity constraint).
13. Every record in Person must have a value for first_name, last_name and personal_address, in order to validate their identity (entity integrity constraint).
14. Every record in Person must have a value for email and phone_number in order to get a hold of them when necessary (entity integrity constraint).
15. Every record in Employee must have a value for position to facilitate filtering of search results (entity integrity constraint).
16. Every record in Employee must have a value for salary in order to calculate bi-weekly paystubs (entity integrity constraint).
17. Every record in Property must have a value for bedrooms and bathrooms to give the guests an idea of how many people can stay at the property (entity integrity constraint).
18. A value of host_id in a Property record must also exist in some Person record (referential integrity constraint).
19. A value of manager_id in a Branch record must also exist in some Person record since a given manager must exist (referential integrity constraint).
20. A value of person_id in an Employee record must also exist in some Person record since the Person relation contains the personal information for the employee (referential integrity constraint).

21. A value of branch_id in an Employee record must also exist in some Branch record since employees must work in a given branch (referential integrity constraint).
22. A value of booking_id in a Review record must also exist in some Booking record because people should only have the ability to review properties where they've stayed (referential integrity constraint).
23. A value of guest_id in a Booking record must also exist in some Person record because the person who wrote the review must exist (referential integrity constraint).
24. A value of property_id in a Booking record must also exist in some Property record because we cannot book a property that does not exist (referential integrity constraint).
25. A value of booking_id in a Payment record must also exist in some Booking record because the guest must compensate the owner when leasing the property (referential integrity constraint).
26. Every value for address must have a street_name, street_number, city, zip_code, province, and country in order to facilitate search queries (entity integrity constraint).