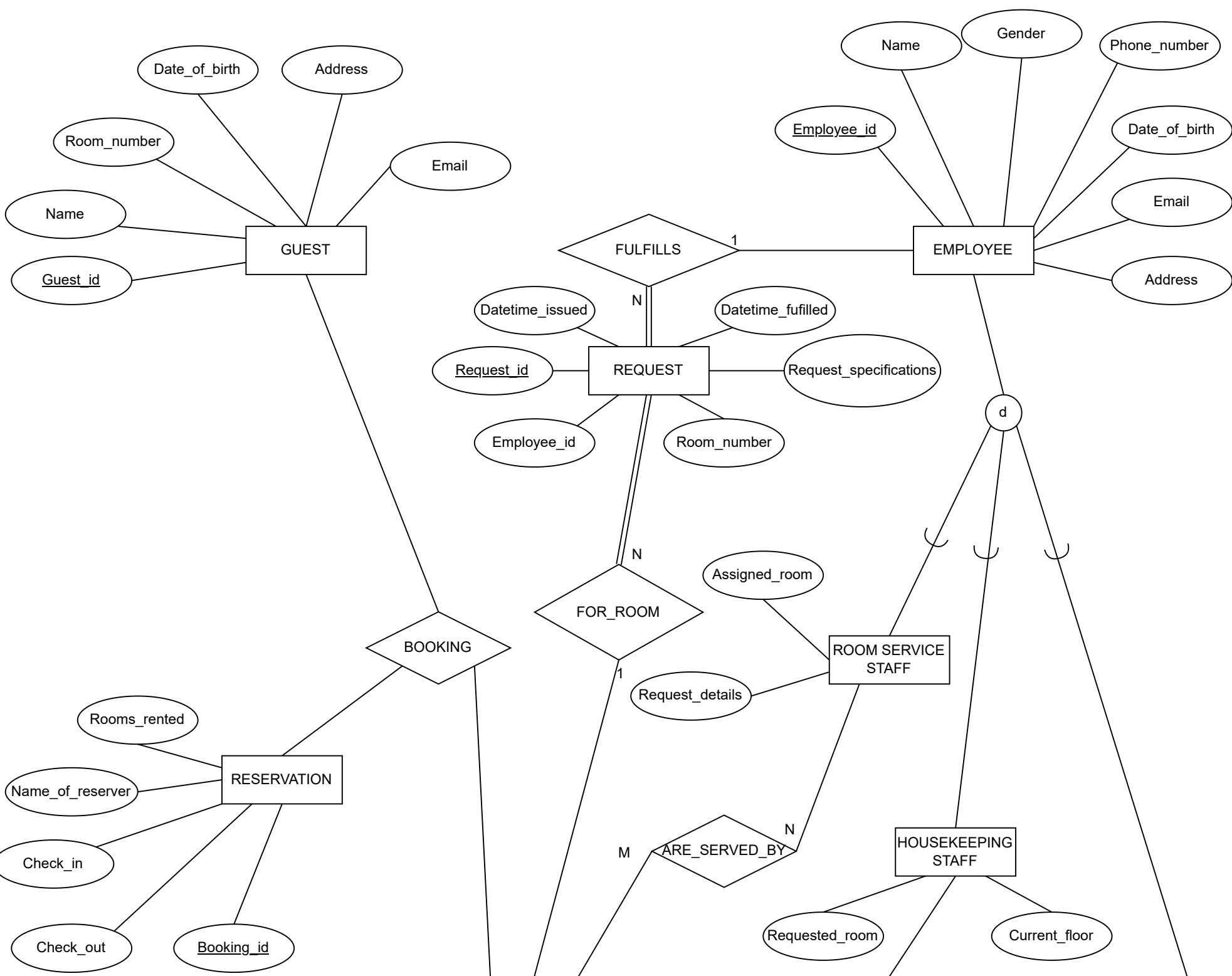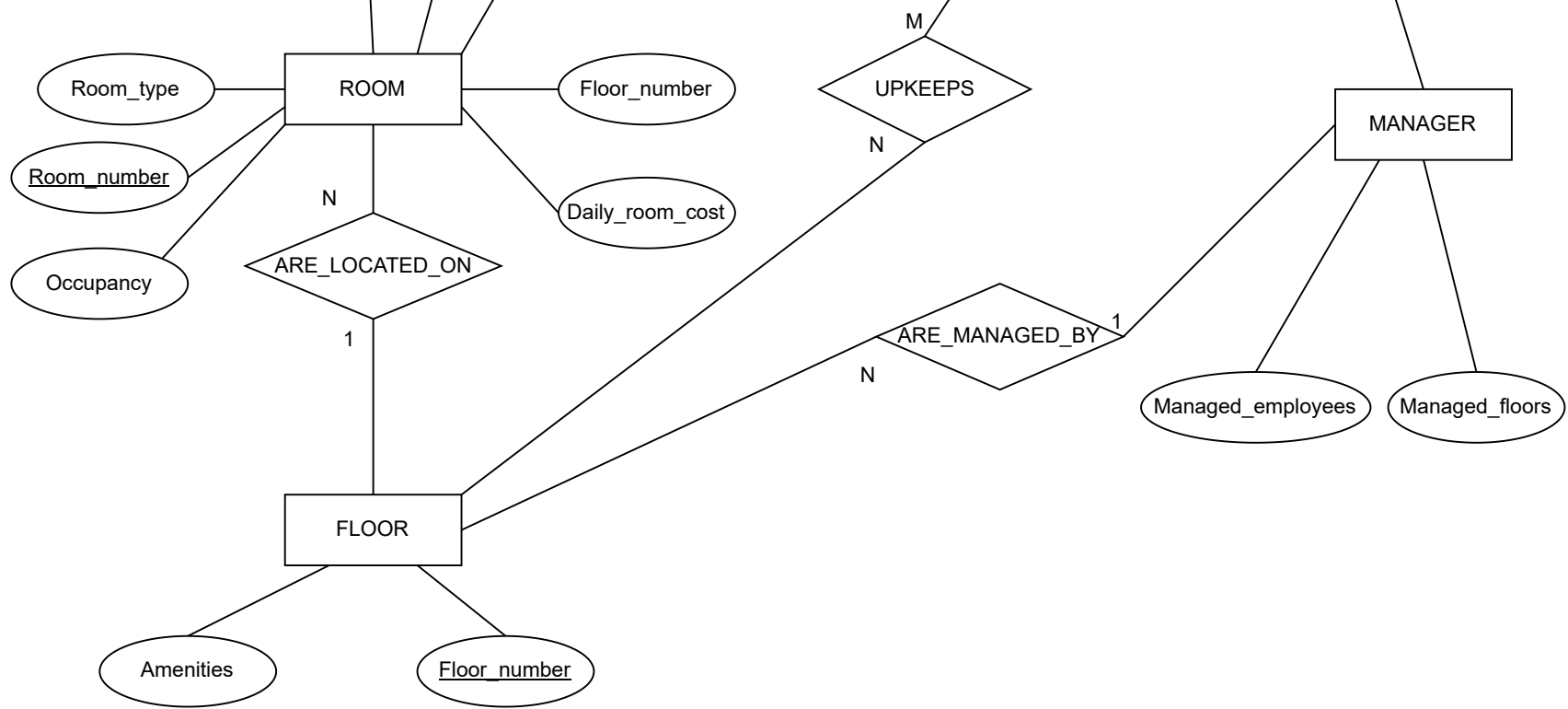# Project Proposal

Team 16: Allen Zhu, Justin Tran, Vishnu Ranganath, Tanish Paruchuri

This document outlines our proposal for a database system to manage a hotel. Individual contribution amongst ourselves was even; each one of us contributed 25% towards the proposal.

Tools Used for the ER diagram and Schema Diagram include

Google Docs and diagrams.net

GUEST

Date_of_birth
Address
Room_number
Email
Name
Guest_id

EMPLOYEE

Name
Gender
Phone_number
Employee_id
Date_of_birth
Email
Address

FULFILLS
1
N

REQUEST

Datetime_issued
Datetime_fufilled
Request_id
Request_specifications
Employee_id
Room_number

d

BOOKING

FOR_ROOM
N
1

Assigned_room
Request_details

ROOM SERVICE
STAFF

RESERVATION

Rooms_rented
Name_of_reserver
Check_in
Check_out
Booking_id

ARE_SERVED_BY
M
N

HOUSEKEEPING
STAFF

Requested_room
Current_floor

M

ROOM

Room_type

Floor_number

UPKEEPS

MANAGER

Room_number

N

Daily_room_cost

N

Occupancy

ARE_LOCATED_ON

1

ARE_MANAGED_BY

1

Managed_employees

Managed_floors

N

FLOOR

Amenities

Floor_number

Schema Diagrams:

GUEST

Guest_id	Name	Room_number	Date_of_birth	Address	Email

RESERVATION

Booking_id	Check_out	Check_in	Name_of_reserver	Rooms_rented

REQUEST

Datetime_issued	Request_id	Room_number	Request_specifications	Datetime_fulfilled	Employee_id

ROOM

Daily_room_cost	Occupancy	Room_number	Room_type	Floor_number

FLOOR

Amenities	Floor_number

EMPLOYEE

Employee_id	Name	Gender	Phone_number	Date_of_birth	Email	Address

ROOM SERVICE STAFF

Employee_id	Assigned_room	Request_details
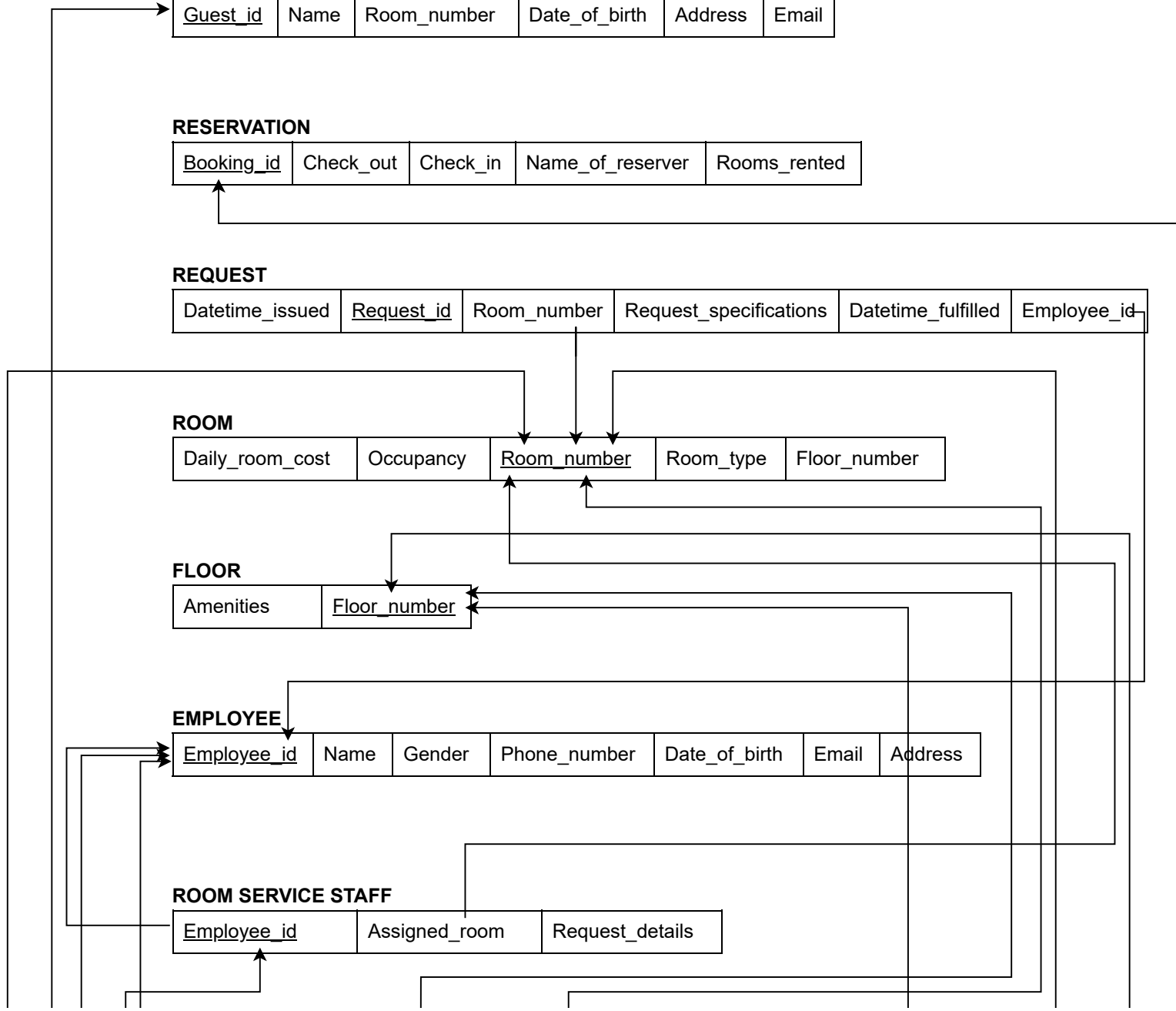
HOUSEKEEPING STAFF

Employee_id	Current_floor	Requested_room

MANAGER

Employee_id	Managed_floors	Managed_employees

UPKEEPS

Employee_id	Floor_number

ARE_SERVED_BY

Employee_id	Room_number

BOOKING

Guest_id	Room_number	Booking_id

ARE_MANAGED_BY

Employee_id	Floor_number

Data Dictionary

Friday, March 4, 2022   10:29 PM

Table	Table Description	Primary Key	SuperKey	Attributes				Foreign Key
EMPLOYEE	A person that Is working for the hotel	Employee id	(Employee_id, Name, Gender, Phone_number, Date_of_birth, Email, Address)	**Attribute**	**Data Type**	**Domain**		N/A
				Employee_id	INT	Any Integer corresponding to a hotel employee		
				Name	VARCHAR(40)	Any String		
				Gender	VARCHAR(10)	Any String		
				Phone_number	INT	Any 10 digit or less Integer		
				Date_of_birth	DATE	Any Date		
				Email	VARCHAR(40)	Any String containing an @ directing to an email host		
				Address	VARCHAR(40)	Any String		

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
ROOM SERVICE STAFF	A type of Employee who provides room service to the guests.	Employee id	(Employee_id, Assigned_room, request_details)	**Attribute**	**Data Type**	**Domain**	Assigned_room, Employee_id
				Employee_id	INT	Any Integer corresponding to a hotel employee	
				Assigned_room	INT	Any Integer corresponding to a hotel room	
				Request_details	VARCHAR(300)	Any String	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
HOUSEKEEPING STAFF	A type of Employee who cleans the Hotel rooms.	Employee_id	(Employee_id, Current_floor, Requested_room)	**Attribute**	**Data Type**	**Domain**	Requested_room, Employee_id
				Employee_id	INT	Any Integer corresponding to a hotel employee	
				Current_floor	INT	Any Integer corresponding to a hotel floor	
				Requested_room	INT	Any Integer corresponding to a hotel room	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
MANAGER	A type of Employee who manage people who work for the hotel.	Employee_id	(Employee_id, Managed_floors, Managed_employees)	**Attribute**	**Data Type**	**Domain**	Employee_id
				Employee_id	INT	Any Integer corresponding to a hotel employee	
				Managed_floors	SET(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12)	Any number of floors listed	
				Managed_employees	VARCHAR(300)	Any String listing employees at the hotel	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
ROOM	A place for a guest to stay in the Hotel.	Room number	(Room_type, Room_number, Occupancy, Daily_room_cost, Floor_number)	**Attribute**	**Data Type**	**Domain**	Floor_number
				Room_type	ENUM(" King", "Queen", "Twin", "Standard Suite", Presidential Suite)	Any of the listed room types	
				Room_number	INT	Any Integer corresponding to a hotel room	
				Occupancy	INT	Any Integer below 10	
				Daily_room_cost	DOUBLE	Any Double with two decimal places	
				Floor_number	INT	Any Integer corresponding to a hotel floor	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
FLOOR	Floors of the Hotel	Floor_number	(Floor_number, Ameneties)	**Attribute**	**Data Type**	**Domain**	N/A
				Floor_number	INT	Any Integer corresponding to a hotel floor	
				Ameneties	VARCHAR(100)	Any String	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
GUEST	A person currently staying at the hotel.	Guest_id	(Guest_id, Name, Room_number, Date_of_birth, Address, Email)	**Attribute**	**Data Type**	**Domain**	Room_number
				Guest_id	INT	Any Integer	
				Name	VARCHAR(50)	Any String	
				Room_number	INT	Any Integer corresponding to a hotel room	
				Date_of_birth	DATE	Any Date	
				Address	VARCHAR(40)	Any String	
				Email	VARCHAR(40)	Any String containing an @ directing to an email host	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
REQUESTS	A request made by a guest at the hotel.	Request_id	(Request_id, Datetime_issued, Datetime_fufilled, Request_specifications, Room_number, Employee_id)	**Attribute**	**Data Type**	**Domain**	Room_number, Employee_id
				Request_id	INT	Any Integer	
				Datetime_issued	DATETIME	Any Date and Time	
				Datetime_fufilled	DATETIME	Any Date and Time	
				Request_specifications	VARCHAR(300)	Any String	
				Room_number	INT	Any Integer corresponding to a hotel room	
				Employee_id	INT	Any Integer corresponding to a hotel employee	

Table	Table		Primary	SuperKey	Attributes	Foreign Key

	Description	Key						Name_of_reserver
RESERVATIONS	A request made in order to book a room at the hotel.	Booking_id	(Booking_id, Check_in, Check_out, Name_of_reserver, Rooms_rented)	**Attribute**	**Data Type**	**Domain**		Name_of_reserver
				Booking_id	INT	Any Integer		
				Check_in	DATE	Any Date		
				Check_out	DATE	Any Date after Check_in		
				Name_of_Reserver	VARCHAR(40)	Any String		
				Rooms_rented	VARCHAR(30)	Any String containing a list of room numbers in the hotel		

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
ARE_SERVED_BY	The relationship between Room service staff and their respective rooms	(Employee_id, Room_number)	(Employee_id, Room_number)	**Attribute**	**Data Type**	**Domain**	Employee_id, Room_number
				Employee_id	INT	Any Integer corresponding to a hotel employee	
				Room_number	INT	Any Integer corresponding to a hotel room	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
UPKEEPS	The relationship between Housekeeping and which floors they upkeep	(Employee_id, Floor_number)	(Employee_id, Floor_number)	**Attribute**	**Data Type**	**Domain**	Employee_id, Floor_number
				Employee_id	INT	Any Integer corresponding to a hotel employee	
				Floor_number	INT	Any Integer corresponding to a hotel floor	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
BOOKING	The relationship between Guests, their reservations, and the rooms booked by said reservations	(Guest_id, Room_number, Booking_id)	(Guest_id, Room_number, Booking_id)	**Attribute**	**Data Type**	**Domain**	(Guest_id, Room_number, Booking_id)
				Guest_id	INT	Any Integer corresponding to a guest id	
				Room_number	INT	Any Integer corresponding to a hotel room	
				Booking_id	INT	Any Integer corresponding to the id of a reservation	

Table	Table Description	Primary Key	SuperKey	Attributes			Foreign Key
ARE_MANAGED_BY	The relationship between Managers and the floors they manage	(Employee_id, Floor_number)	(Employee_id, Floor_number)	**Attribute**	**Data Type**	**Domain**	Employee_id, Floor_number
				Employee_id	INT	Any Integer	

							corresponding to a hotel employee that is a Manager	
					Floor_number	INT	Any Integer corresponding to a hotel floor	