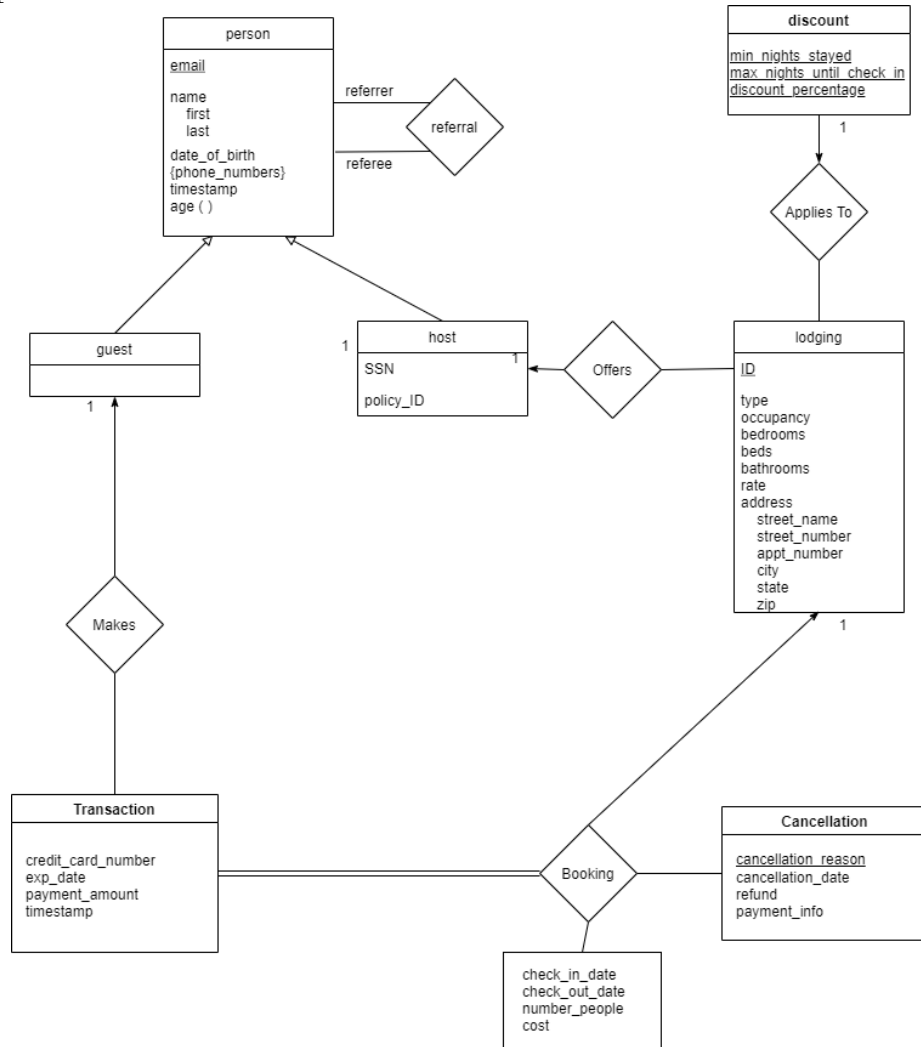COURSE:CS/DSA-4513 -DATABASE MANAGEMENT
SECTION:001
SEMESTER:FALL 2021
INSTRUCTOR: Le Gruenwald
GROUP NUMBER: 18
GROUP MEMBERS: Jay Rothenberger, Ashesh Gaur, Naeem Shahabi Sani
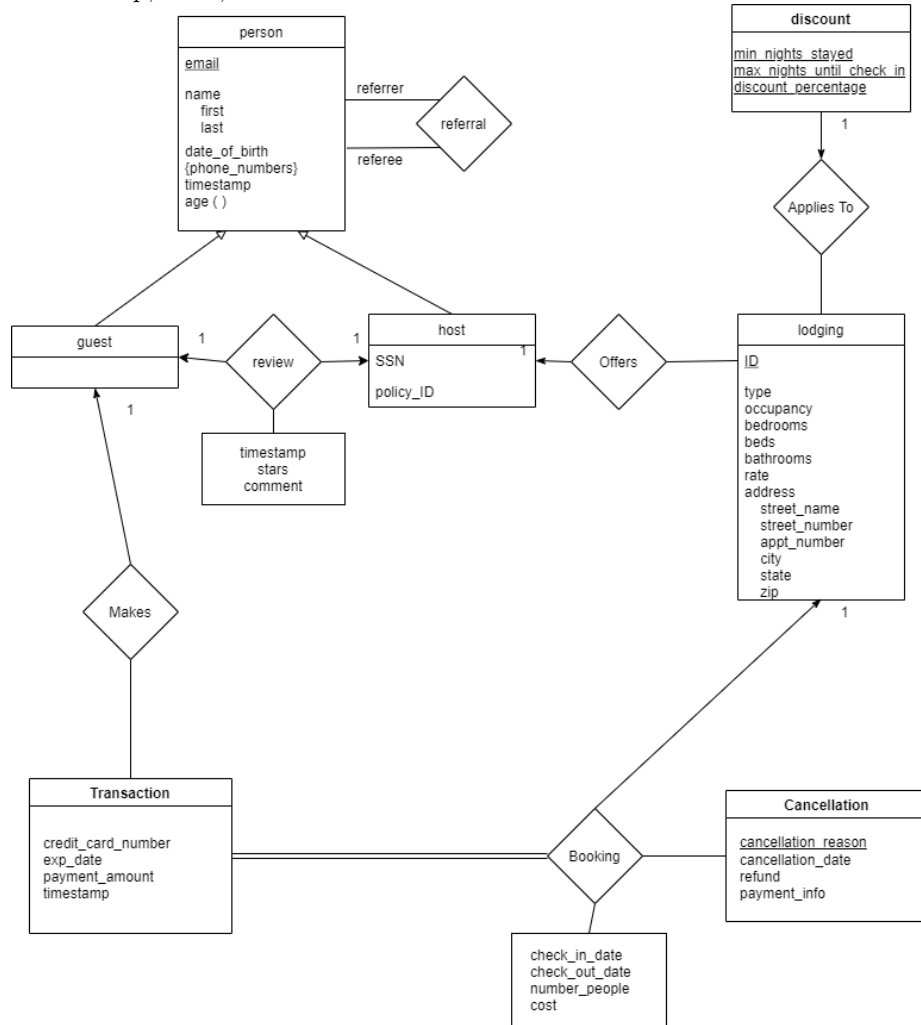SCORE:

1   Problem 1

1.1

person

email

name
  first
  last

date_of_birth
{phone_numbers}
timestamp
age ( )

referrer

referral

referee

discount

min_nights_stayed
max_nights_until_check_in
discount_percentage

1

Applies To

guest

1

host

SSN

policy_ID

1   1

Offers

lodging

ID

type
occupancy
bedrooms
beds
bathrooms
rate
address
  street_name
  street_number
  appt_number
  city
  state
  zip

1

Makes

1

Transaction

credit_card_number
exp_date
payment_amount
timestamp

Booking

check_in_date
check_out_date
number_people
cost

Cancellation

cancellation_reason
cancellation_date
refund
payment_info

1.2

An additional relation between guest and host could be added with descriptors timestamp, stars, and comment as shown below:

2 Problem 2

1. An airline needs a database system to manage passenger accounts for their website

2. Each user will be specified by a unique ID generated when their account is created, as well as their date of birth and social security number, and sex

3. The database records sessions of users when the log in to the airline's website. Each session contains the user's browsing history on the site, a timestamp of when the session is started, and a unique session token.

4. A user can add two factor authentication to their account and the database will store two factor authentication credentials: phone number and email.

5. Users of the airline's website can pay for a premium membership to become premium users, and premium users can earn rewards points to apply for a discount on their next flight

6. Premium users can also refer other users to become premium users for additional rewards points

7. The website will need to keep track of flights for each user. Each flight has a unique flight number, a date, a cost, a destination, and a source.

8. A user can cancel a flight at any time for a 25% cancellation fee, and the refund amount and cancellation time are associated with the booking in the database.