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#
#          Project Deliverable #2
#
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#          Alex Louie asl132,
#          Mike Allen mwa27
#


##############################
#
#          Project Assumptions:
#          1) location/address is one attribute
#          2) Customer has one phone number
#

create database hotelDatabase;

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#
# Entity #1 & #1A
#
#
CREATE TABLE Hotel (
          hotelID          int NOT NULL,
          Location         varchar(50) NOT NULL,
          PRIMARY KEY (hotelID)
);

CREATE TABLE HotelPhoneNumbers (
          hotelID          int NOT NULL,
          phone_no         varchar(20),
          PRIMARY KEY (hotelID, phone_no),
          FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);

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#
# Entity #2
# Includes 'Has' relationship
#
CREATE TABLE Room (
          Room_no          int NOT NULL,
```

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        hotelID          int NOT NULL,
        price            float,
        capacity         int,
        floor_no         int NOT NULL,
        description      varchar(254),
        type             ENUM('standard', 'double', 'deluxe',
     'suite'),
        PRIMARY KEY (hotelID, room_no),
        FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);


##############################
#
# Entity #3
#
CREATE TABLE Offer_Room (
        Room_no          int,
        hotelID          int,
        discount         float,
        sdate            DATE,
        edate            DATE,
        PRIMARY KEY (room_no, hotelID, sdate, edate, discount),
        FOREIGN KEY (room_no) REFERENCES Room(room_no),
        FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);


##############################
#
# Entity #4
# Includes the "offers" relationship
#
CREATE TABLE Breakfast (
        bType            varchar(20),
        hotelID          int,
        description      varchar(256),
        bPrice           float,
        PRIMARY KEY (bType, hotelID),
        FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);


##############################
#
# Entity #5
# Includes "provides" relationship
#
```

```
CREATE TABLE Services (
        sType           varchar(20),
        sCost           float,
        hotelID         int,
        PRIMARY KEY (sType, hotelID),
        FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);

##############################
#
# Entity #6
#
CREATE TABLE CreditCard (
        Cnumber         int NOT NULL,
        expdate         DATE NOT NULL,
        ctype           ENUM('Visa', 'Master', 'Discover', 'Amex'),
        secCode         int NOT NULL,
        name            varchar(20) NOT NULL,
        billingaddr     varchar(50) NOT NULL,
        PRIMARY KEY (cnumber)
);

##############################
#
# Entity #7
#
CREATE TABLE Customer (
        cID             int NOT NULL,
        email           varchar(20),
        address         varchar(50),
        phone_no        int,
        name            varchar(20),
        PRIMARY KEY (cID)
);

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#
# Entity #8
# Includes "writes" relationship through Merge Rule
#
CREATE TABLE Review (
        reviewID        int NOT NULL,
        cID             int,
        rating          int,
        textcomment     varchar(1028),
```

```
            PRIMARY KEY (reviewID)
            FOREIGN KEY (cID) REFERENCES Customer(cID)
);


##############################
#
# Entity #9
# Includes relationship between 'Room' and 'Room Review'
#
CREATE TABLE RoomReview (
            reviewID         int NOT NULL,
            Room_no          int,
            hotelID          int,
            PRIMARY KEY (reviewID)
            FOREIGN KEY (reviewID) REFERENCES Review(reviewID),
            FOREIGN KEY (room_no) REFERENCES Room(room_no),
            FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);


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#
# Entity #10
# Includes 'assesses' relationship
#
CREATE TABLE BreakfastReview (
            reviewID         int NOT NULL,
            bType            varchar(20),
            hotelID          int,
            PRIMARY KEY (reviewID)
            FOREIGN KEY (reviewID) REFERENCES Review(reviewID),
            FOREIGN KEY (bType) REFERENCES Breakfast(bType),
            FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);


##############################
#
#          Entity #11
#   Includes 'rates' relationship
#
CREATE TABLE ServiceReview (
            reviewID         int NOT NULL,
            sType            varchar(20),
            hotelID          int,
            PRIMARY KEY (reviewID)
            FOREIGN KEY (reviewID) REFERENCES Review(reviewID),
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```
            FOREIGN KEY (sType) REFERENCES Services(sType),
            FOREIGN KEY (hotelID) REFERENCES Hotel(hotelID)
);


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#
# Entity #12
# Includes "makes" relationship
#
CREATE TABLE Reservation (
      invoiceNo        int NOT NULL,
      resDate          DATE,
      totalAmt         float,
      cID              int NOT NULL,
      cnumber          int NOT NULL,
      PRIMARY KEY (invoiceNo)
      FOREIGN KEY(cID) REFERENCES Customer(cID),
      FOREIGN KEY(cnumber) REFERENCES CreditCard(cnumber)
);


#############################
#
# Entity #13
#
CREATE TABLE Reserves (
      invoiceNo        int NOT NULL,
      room_no          int NOT NULL,
      hotelID          int NOT NULL,
      outDate          DATE,
      inDate           DATE,
      noOfDays         int,
      PRIMARY KEY(invoiceNo,room_no,hotelID),
      FOREIGN KEY (invoiceNo) REFERENCES Reservation(invoiceNo),
      FOREIGN KEY (room_no,hotelID) REFERENCES Room(room_no,hotelID)

);


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#
# Entity #14
#
CREATE TABLE Includes (
      invoiceNo        int NOT NULL,
      bType            varchar(20),
      hotelID          int,
```

```
        PRIMARY KEY(invoiceNo,bType,hotelID),
        FOREIGN KEY (invoiceNo) REFERENCES Reservation(invoiceNo),
        FOREIGN KEY (bType,hotelID) REFERENCES Breakfast(bType,hotelID)
);


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#
# Entity #15
#
CREATE TABLE Contains (
        invoiceNo         int NOT NULL,
        sType             varchar(20),
        hotelID           int,
        PRIMARY KEY (invoiceNo,sType,hotelID),
        FOREIGN KEY (invoiceNo) REFERENCES Reservation(invoiceNo),
        FOREIGN KEY (sType,hotelID) REFERENCES Services(sType,hotelID)
);
```
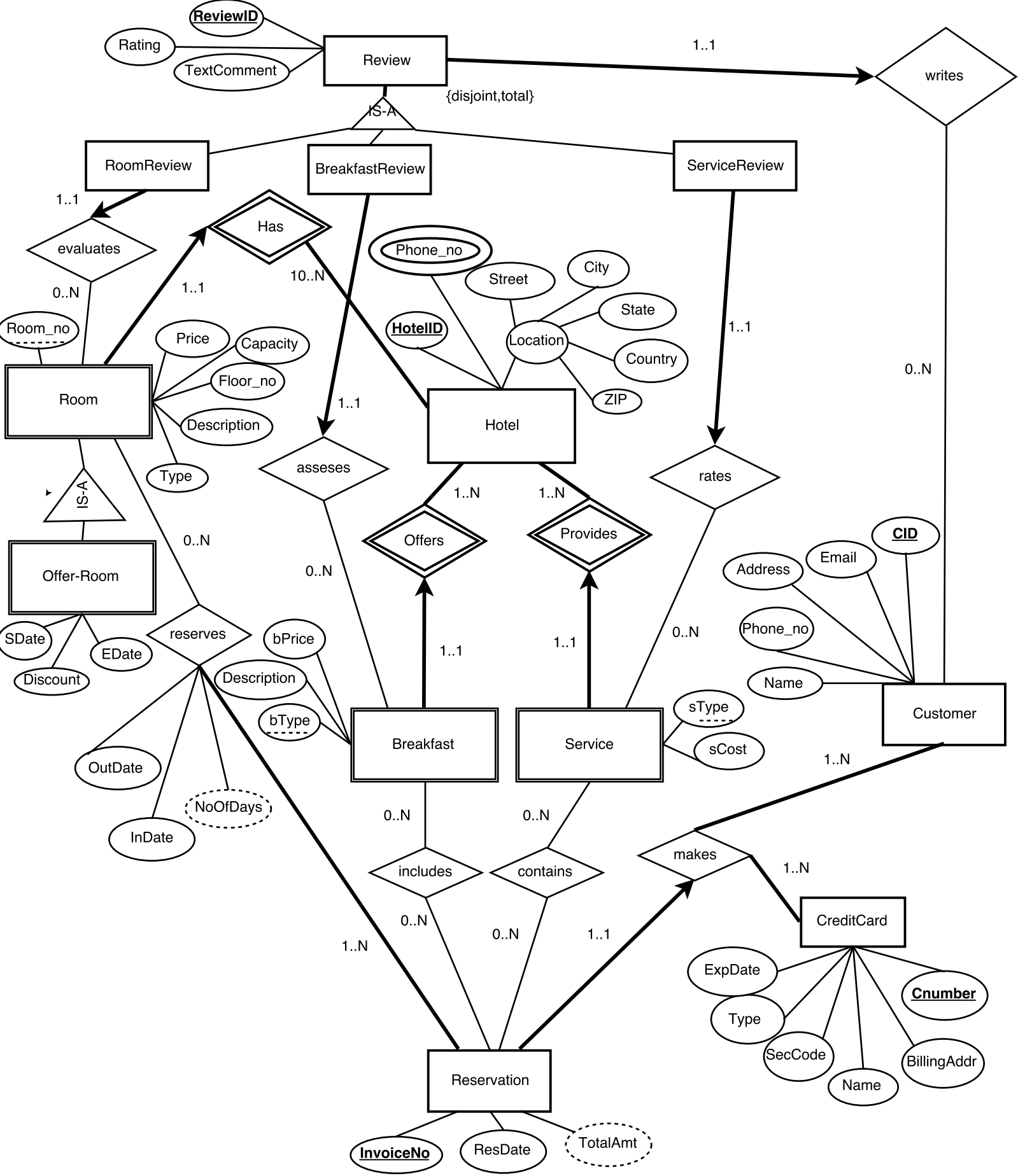
ENTITY RELATIONSHIP DIAGRAM OF ONLINE HOTEL RESERVATION SYSTEM