PROBLEM STATEMENT :In this project we have designed data base management system to design travelling website database.This website makes our travelling very simple and easy.Every customer logins through his/her mobile number and website provides booking id for a particular trip.The customer just have to login to the website and enter trip details like trip like mode of transportation,trip ends,no.of people. It provides many online travel services including flight tickets,hotel reservations etc. The website consults to travel_agency ,hotel booking site and the booking website gives every information to user like room number,vechile number,seat number through mail.And the end the website provides cost of trip which customer pays with the linked card.The database also gives data of tourist places,hotels available at particular location.
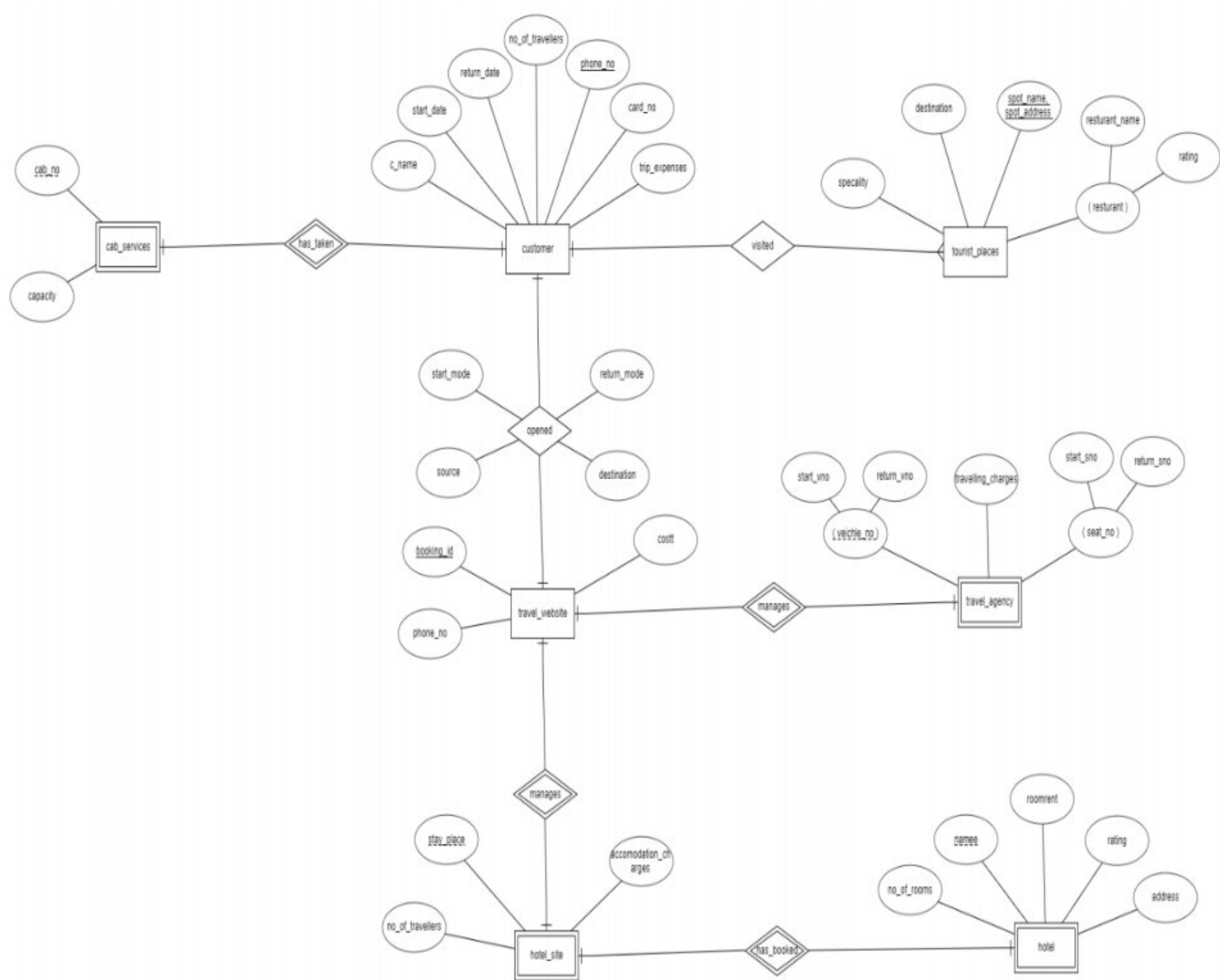
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ER MODEL ASSUMPTIONS-

•A customer can login into website to plan many trips.But in this database we are just updating the details when old user logins into site

•We are just assuming that the no.of rooms travellers want is half of the total travellers.

•Every customer can hire many cabs but in this database we are just assuming each customer takes only one cab in entire trip.

•We are assuming that with a specified name and address there is only one hotel

•We are assuming that at a specified address there is only one resturant

•Different types of rooms are possible in a particular hotel like ac/non-ac.Excluding all we are assuming there are only one type of rooms in a hotel.

•As we are designing travel website database and we can only know the customers who approached our database so we are treating travel website as unique

ER DIAGRAM

RELATIONAL SCHEMA BEFORE NORMALIZATION
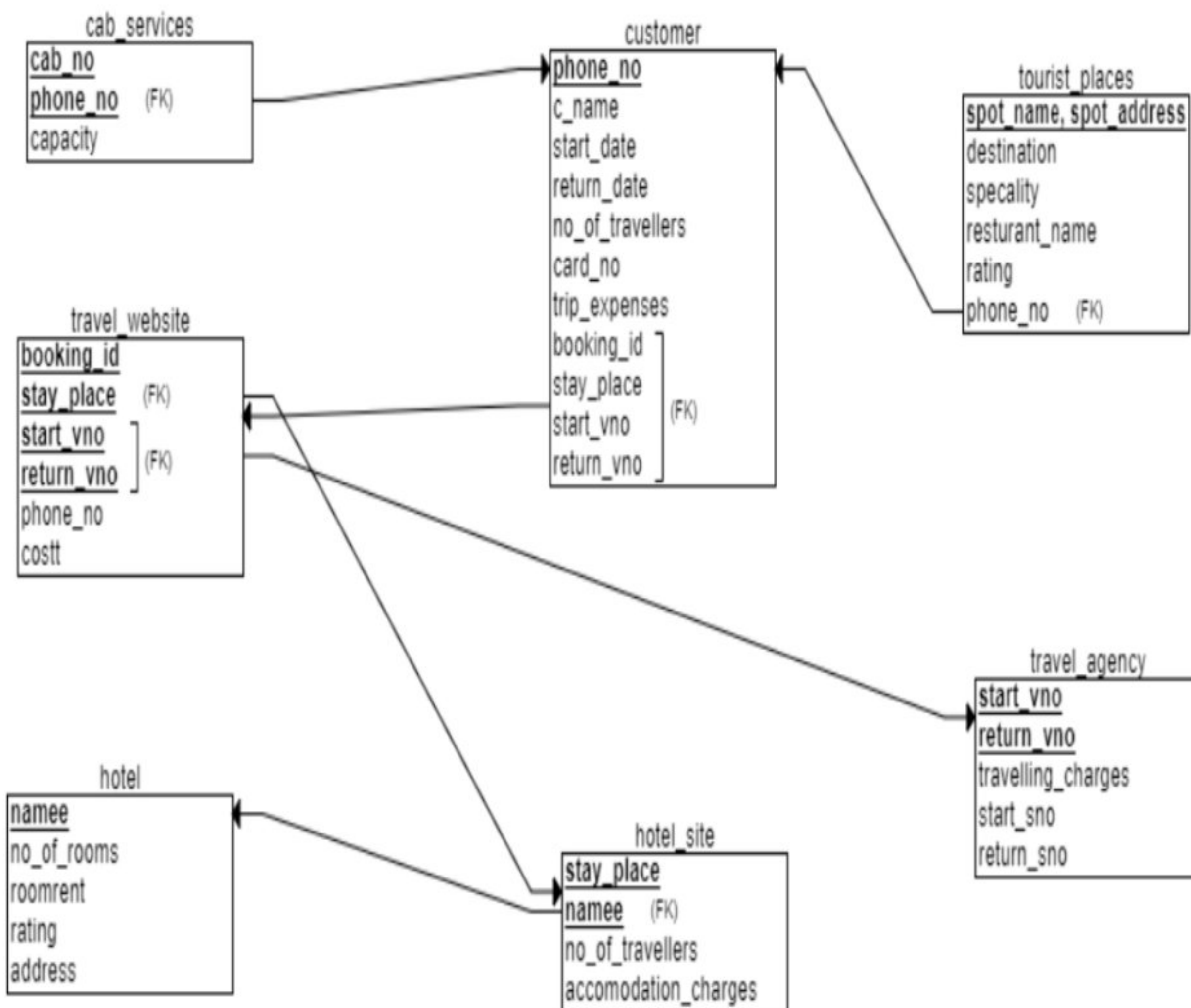
FUNCTIONAL DEPENDENCIES AND PRIMARY KEY BEFORE NORMALIZATION

1.Customer

Phone_no -> c_name,start_date,return_date,travellers,card_no,trip_expenses

Card_no -> c_name,start_date,return_date,travellers,phone_no,trip_expenses

Primary key – phone_no

2.Cab_services

Phone_no -> capacity

Phone_no -> cab_no

Primary_key – phone_no,cab_no

3.Hotel_site

Booking_id -> stay_place,no_of_travellers,accommodation_charges

Primary key – (booking_id,stay_place)

4.Travel_agency

Booking_id -> start_no,return_no,start_sno,return_sno,travelling_charges

Primary key – booking_id

5.Tourist_places

Spot_name,spot_address ->specality

Spot_name,spot_address -> restaurant_name

Spot_name,spot_address -> rating

restaurant_name -> rating

Spot_address->rating

Primary key – (spot_name,spot_address,destination)

6.Travel_website

Booking_id -> cost,source,destination,start_mode,return_mode,phone_no

Phone_no -> booking_id,cost,source,destination,start_mode,return_mode

Primary key – booking_id

7.Hotel

Booking_id -> name,address,rating,room_rent,no_of_rooms

name,address ->room_rent

name,address ->rating

address -> stay_place

Primary key –(booking_id,stay_place)

NORMALIZATION

1)CUSTOMER1

Primary Key: phone_no

Candidate Key: card_no

All attributes depend on the phone_no,hence the table is 2NF.

All attributes depend directly on the phone_no,hence the table is 2NF.

All determinants(phone_no) are candidate key,hence the table is BCNF.

2) CAB_SERVIES

Primary Key: phone_no

All attributes depend on the phone_no,hence the table is 2NF.

All attributes depend directly on the phone_no,hence the table is 2NF.

All determinants(phone_no) are candidate key,hence the table is BCNF.

3) TRAVEL_WEBSITE

Primary Key :booking_id

Candidate Key: phone_no

All attributes depend on the booking_id,hence the table is 2NF.

All attributes depend directly on the booking_id,hence the table is 2NF.

All determinants(booking_id) are candidate key,hence the table is BCNF.

4) HOTEL_SITE

Primary Key :booking_id

All attributes depend on the booking_id,hence the table is 2NF.

All attributes depend directly on the booking_id,hence the table is 2NF.

All determinants(booking_id) are candidate key,hence the table is BCNF.

5) HOTEL

It was divided into 2 entities because the former one's highest normal form was 1NF.

->Hotel1(namee, address, rating, roomrent, booking_id)

Primary Key : booking_id

All attributes depend on the (namee, address),hence the table is 2NF.

All attributes depend directly on the (namee, address),hence the table is 2NF.

All determinants(namee, address) are candidate key,hence the table is BCNF.

->Hotel2(booking_id, no_of_rooms, stay_place)

Primary Key :booking_id

All attributes depend on the booking_id,hence the table is 2NF.

All attributes depend directly on the booking_id,hence the table is 2NF.

All determinants(booking_id) are candidate key,hence the table is BCNF.

Lossless decomposition: As the common attribute in both entities is a super key of hotel2.

6)TRAVEL_AGENCY

Primary Key :booking_id

All attributes depend on the booking_id,hence the table is 2NF.

All attributes depend directly on the booking_id,hence the table is 2NF.

All determinants(booking_id) are candidate key,hence the table is BCNF.

7)TOURIST_PLACES

Primary Key : spot_name, spot_address

All attributes depend on the spot_name, spot_address hence the table is 2NF.

All attributes depend directly on the spot_name, spot_address hence the table is 2NF.

All determinants(spot_name, spot_address) are candidate key,hence the table is BCNF.

FUNCTIONAL DEPENDENCIES AND PRIMARY KEY AFTER NORMALIZATION

1.Customer

Phone_no -> c_name,start_date,return_date,travellers,card_no,trip_expenses

Card_no -> c_name,start_date,return_date,travellers,phone_no,trip_expenses

Primary key – phone_no

2.Cab_services

Phone_no -> capacity

Phone_no -> cab_no

Primary_key – phone_no,cab_no

3.Hotel_site

Booking_id -> stay_place,no_of_travellers,accommodation_charges

Primary key – (booking_id,stay_place)

4.Travel_agency

Booking_id -> start_no,return_no,start_sno,return_sno,travelling_charges

Primary key – booking_id

5.Tourist_places

Spot_name,spot_address ->specality

Spot_name,spot_address -> restaurant_name

Spot_name,spot_address -> rating

restaurant_name -> rating

Spot_address->rating

Primary key – (spot_name,spot_address,destination)

6.Travel_website

Booking_id -> cost,source,destination,start_mode,return_mode,phone_no

Phone_no -> booking_id,cost,source,destination,start_mode,return_mode

Primary key – booking_id

7.Hotel1

Booking_id -> no_of_rooms,stay_place

Primary key – booking_id

8.Hotel2

Booking_id -> name,address,rating,room_rent

name,address -> rating

name,address ->room_rent

Primary key – booking_id

SQL CODE

CREATION

CREATE TABLE customer

(

c_name VARCHAR(20),

start_date DATE,

return_date DATE,

travellers INT,

sourcee varchar(20),

destination varchar(20),

phone_no DECIMAL(10),

card_no DECIMAL(20) ,

trip_expenses INT DEFAULT 0,

PRIMARY KEY(phone_no)

);

CREATE TABLE travel_website

(

booking_id INT ,

```sql
 costt INT,

start_mode VARCHAR(20),

return_mode VARCHAR(20) ,

phone_no DECIMAL(10),

FOREIGN KEY (phone_no) REFERENCES customer(phone_no),

PRIMARY KEY (booking_id)

);

CREATE TABLE cab_services

(

 capacityy INT,

 phone_no DECIMAL(10),

 FOREIGN KEY(phone_no) REFERENCES customer(phone_no),

 cab_no INT,

 PRIMARY KEY (phone_no,cab_no)

);

 CREATE TABLE tourist_places(

  spot_name NVARCHAR2(100),

  spot_address NVARCHAR2(100),

  specialty NVARCHAR2(100),

  destination NVARCHAR2(20),

  restaurent_name NVARCHAR2(30),

  rating FLOAT,

  PRIMARY KEY (spot_name,spot_address)

  );

CREATE TABLE travel_agency(

  start_vno INT ,
```

```sql
    return_vno INT,

    start_sno INT,

    return_sno INT,

    travelling_charges INT,

    booking_id INT,

FOREIGN KEY (booking_id) REFERENCES travel_website(booking_id),

 PRIMARY KEY (booking_id)

);

CREATE TABLE  hotel_site

(

stay_place VARCHAR(20),

no_of_travellers NUMBER,

accomodation_charges NUMBER,

booking_id INT,

FOREIGN KEY (booking_id) REFERENCES travel_website(booking_id),

PRIMARY KEY (booking_id,stay_place)

);

CREATE TABLE  hotel1

(

no_of_rooms NUMBER,

stay_place VARCHAR(20),

booking_id INT,

FOREIGN KEY (stay_place,booking_id) REFERENCES
hotel_site(stay_place,booking_id),

primary key (booking_id)

);
```

```
CREATE TABLE hotel2

(

 namee VARCHAR(50),

 address VARCHAR(100),

 rating NUMBER,

 roomrent NUMBER,

 booking_id INT,

 FOREIGN KEY (booking_id) REFERENCES hotel1(booking_id),

 primary key(booking_id)

);
```

INSERTION

```
INSERT INTO customer VALUES ('mahesh babu','18-apr-21','27-apr-21',3,'HYDERABAD','MANALI',9883746478,8473781277445463,0);

INSERT INTO customer VALUES ('vijay','28-apr-21','12-may-21',4,'CHENNAI','OOTY',9886834478,6376474746467383,0);

INSERT INTO customer VALUES ('rajinikanth','8-apr-21','17-apr-21',5,'CHENNAI','SHIMLA',9799765431,7865435678965432,0);

INSERT INTO customer VALUES ('balayya','11-apr-21','01-may-21',6,'HYDERABAD','KASHMIR',9765437546,8736456251890123,0);

INSERT INTO customer VALUES('pawan kalyan','18-AUG-21','27-AUG-21',4,'BENGALURU','DELHI',9345984592,4448174040235238,0);

INSERT INTO customer VALUES('ntr','15-DEC-21','26-DEC-21',5,'DELHI','GOA',9847298479,7438274287482734,0);

INSERT INTO customer VALUES('ram charan','20-OCT-21','15-NOV-21',9,'DELHI','MANALI',9842897324,8744832347922832,0);

INSERT INTO customer VALUES('samantha','12-jun-08','21-jun-08',5,'HYDERABAD','VIZAG',8688102828,123456789121213,0);
```

```sql
INSERT INTO customer VALUES('kajal','21-jan-10','29-jan-10',5,'MUMBAI','BENGALURU',9878102826,784556789121214,0);

INSERT INTO customer VALUES('tamanna','10-dec-21','19-dec-21',5,'MUMBAI','CHENNAI',6878202827,891556789121345,0);


INSERT INTO travel_website VALUES(65574567,0,'FLIGHT','TRAIN',9883746478);

INSERT INTO travel_website VALUES(87654356,0,'FLIGHT','BUS',9886834478);

INSERT INTO travel_website VALUES(87655677,0,'FLIGHT','TRAIN',9799765431);

INSERT INTO travel_website VALUES(76876577,0,'FLIGHT','FLIGHT',9765437546);

INSERT INTO travel_website VALUES(73278361,0,'BUS','TRAIN',9345984592);

INSERT INTO travel_website VALUES(74326486,0,'FLIGHT','TRAIN',9847298479);

INSERT INTO travel_website VALUES(37612898,0,'TRAIN','FLIGHT',9842897324);

INSERT INTO travel_website VALUES(22331456,0,'train','bus',9878102826);

INSERT INTO travel_website VALUES(97331452,0,'flight','train',8688102828);

INSERT INTO travel_website VALUES(32331457,0,'train','flight',6878202827);


INSERT INTO cab_services VALUES (0,9883746478,1480);

INSERT INTO cab_services VALUES (0,9886834478,6130);

INSERT INTO cab_services VALUES (0,9799765431,6260);

INSERT INTO cab_services VALUES (0,9765437546,7889);

INSERT INTO cab_services VALUES(0,9345984592,2537);

INSERT INTO cab_services VALUES(0,9847298479,7464);

INSERT INTO cab_services VALUES(0,9842897324,3432);
```

INSERT INTO cab_services VALUES(0,8688102828,1265);

INSERT INTO cab_services VALUES(0,9878102826,7462);

INSERT INTO cab_services VALUES(0,6878202827,5637);

INSERT INTO tourist_places VALUES('Hawa Ghar','Ridge,Shimla','Elevated pavilion offering vistas','SHIMLA','apple',3);

INSERT INTO tourist_places VALUES('Chadwick Falls','Shimla,Himachal Pradhesh','waterfall in a dense forest','SHIMLA','blue mango',4);

INSERT INTO tourist_places VALUES('Scandal Point','Mall Rd,Shimla','Great views of the Himalayas','SHIMLA','green hard',4.2);

INSERT INTO tourist_places VALUES('Khilanmarg','Gulmarg,Jammu and Kashmir','carpeted with flowers','KASHMIR','whale', 3.8);

INSERT INTO tourist_places VALUES('Thaj glacier','Forest Block,Jammu','scenic golf course','KASHMIR','andi',3.4);

INSERT INTO tourist_places VALUES('Shiv Khori','near hayat,Jammu','Miracle of God','KASHMIR','boleraj',4.1);

INSERT INTO tourist_places VALUES('Dolhins nose','Cannoor,Ooty','Catherine Waterfalls','OOTY','udipi',4.2);

INSERT INTO tourist_places VALUES('Ooty Boat House','North Lake Road,ooty','boating','OOTY','thard',4.5);

INSERT INTO tourist_places VALUES('Tiger Hill','Ooty, Tamil Nadu','panoramic view of Mount Everest','OOTY','nanged',4.1);

INSERT INTO tourist_places VALUES('Humayan tomb','Mathura road,New Delhi','tomb of famous Mughal Emperor','DELHI','khauj',4);

INSERT INTO tourist_places VALUES('Bahai Temple','Bahapur,Kalkaji','Famous for architecture','DELHI','Barbeque',4.6);

INSERT INTO tourist_places VALUES('Gardenofsenses','South of Saket,New Delhi','Famous for Nature Beauty','DELHI','Mandi',4.8);

INSERT INTO tourist_places VALUES('Baga Beach','Saunto,Goa','famous for parasailing','GOA','Udipi restaurant',3.5);

```sql
INSERT INTO tourist_places VALUES('Calangu Beach','North Goa','Coastal road with dining,lodging','GOA','Feliz',3.5);

INSERT INTO tourist_places VALUES('Dudhsagar Falls','Sonalium,Goa','famoous for adventrous trek','GOA','Rio Salao',3.5);

INSERT INTO tourist_places VALUES('SolangValley','Burwa,Manali','snow-capped mountains','MANALI','Renaissance',3.5);


INSERT INTO tourist_places VALUES('Jogini Waterfalls','Vashist Village,Manali','Shakti peeth','MANALI','John Cafe',3.5);

INSERT INTO tourist_places VALUES('Manali Gompa','Old Manali Road','roof built in pagoda style','MANALI','Drift Inn',3.5);

INSERT INTO tourist_places VALUES('Aruku valley','aruku,Vizag','hill station','VIZAG','vashistha',3.9 );

INSERT INTO tourist_places VALUES('Rishikonda beach','Bheemili road,Vizag','beach with golden and black sand','VIZAG','Bake hotel',4.3);

INSERT INTO tourist_places VALUES('Tenneti Park','Beach Road,Vizag','childrens park','VIZAG','Treebo Trend','4.6');

INSERT INTO tourist_places VALUES('Nandi hills','Chikkaballapur,Banglore','ancient hill fortification','BENGALURU','Leela palace',4.1);

INSERT INTO tourist_places VALUES('Banglore palace','Vasanth Nagar,Banglore','stylish archutecture towers','BENGALURU','haveli',4.4);

INSERT INTO tourist_places VALUES('Thottikallu Falls','Kanakapura Rd,Banglore','golden faced water falls','BENGALURU','Rasisson',4.7);

INSERT INTO tourist_places VALUES('Chennai Lighthouse','Marina beach road,Myykapore','facing bay of bengal on east coast','CHENNAI','cafe hotel',4.5);

INSERT INTO tourist_places VALUES('Semmozhi Poonga','Cathedra Rd,Teynampet','botanical garden','CHENNAI','Grand Chola',4.0);

INSERT INTO tourist_places VALUES('Anna Nagar','Anna Nagar,Chennai','first and only township in chennai','CHENNAI','Hilton chennai',4.2);
```

```sql
INSERT INTO travel_agency VALUES(1737,3636,727,636,25000,65574567);
INSERT INTO travel_agency VALUES(7272,6262,535,626,24250,87654356);
INSERT INTO travel_agency VALUES(9020,9276,244,398,20000,87655677);
INSERT INTO travel_agency VALUES(7265,5252,189,298,50000,76876577);
INSERT INTO travel_agency VALUES(2376,2839,234,578,30000,73278361);
INSERT INTO travel_agency VALUES(1238,2489,452,700,45000,74326486);
INSERT INTO travel_agency VALUES(3864,3498,387,498,50000,37612898);
INSERT INTO travel_agency VALUES(8765,2345,451,278,30000,22331456);
INSERT INTO travel_agency VALUES(6417,4358,257,753,48000,97331452);
INSERT INTO travel_agency VALUES(2561,3475,761,247,45000,32331457);


INSERT INTO hotel_site VALUES('NULL',0 ,0 ,65574567 );
INSERT INTO hotel_site VALUES('NULL',0 ,0 , 87654356);
INSERT INTO hotel_site VALUES('NULL',0 ,0 ,87655677 );
INSERT INTO hotel_site VALUES('NULL',0 ,0 ,76876577 );
INSERT INTO hotel_site VALUES('NULL',0 ,0 ,73278361 );
INSERT INTO hotel_site VALUES('NULL',0 ,0 ,74326486 );
INSERT INTO hotel_site VALUES('NULL',0 ,0 ,37612898 );
INSERT INTO hotel_site VALUES('NULL',0 ,0 , 22331456);
INSERT INTO hotel_site VALUES('NULL',0 ,0 , 97331452);
INSERT INTO hotel_site VALUES('NULL',0 ,0 , 32331457);


INSERT INTO hotel1 VALUES (NULL,NULL,65574567);
INSERT INTO hotel1 VALUES (NULL,NULL,87654356);
INSERT INTO hotel1 VALUES (NULL,NULL,87655677);
```

INSERT INTO hotel1 VALUES (NULL,NULL,76876577);

INSERT INTO hotel1 VALUES (NULL,NULL,73278361);

INSERT INTO hotel1 VALUES (NULL,NULL,74326486);

INSERT INTO hotel1 VALUES (NULL,NULL,37612898);

INSERT INTO hotel1 VALUES (NULL,NULL,22331456);

INSERT INTO hotel1 VALUES(NULL,NULL,97331452);

INSERT INTO hotel1 VALUES(NULL,NULL,32331457);

INSERT INTO hotel2 VALUES ('rayal villas',' Manali, Himachal Pradesh ',3.5,6000,65574567);

INSERT INTO hotel2 VALUES ('taj banjara','Ooty, Tamil Nadu',3.8,9000,87654356);

INSERT INTO hotel2 VALUES ('snow valley','Shimla, Himachal Pradesh',4,10000,87655677);

INSERT INTO hotel2 VALUES ('samson',' Patnitop Jammu and Kashmir',5,40000,76876577);

INSERT INTO hotel2 VALUES ('Radisson Plaza','Mahipalpur',4.9,5000,73278361);

INSERT INTO hotel2 VALUES ('ITC Goa','Utorda',5,8000,74326486);

INSERT INTO hotel2 VALUES ('IPC Manali','Old Manali',4.9,10000,37612898);

INSERT INTO hotel2 VALUES ('VIVANTA','RESIDENCY ROAD,BANGLORE',4.5,7000,22331456);

INSERT INTO hotel2 VALUES('NOVOTEL','VARUN BEACH,VISHAKAPATNAM',3.9,4500,97331452);

INSERT INTO hotel2 VALUES('HILTON','RESIDANCY ROAD,KOTTAM,CHENNAI',4.7,9000,32331457);

UPDATE

UPDATE cab_services

```sql
SET capacityy=(SELECT travellers FROM customer WHERE
customer.phone_no=cab_services.phone_no);


UPDATE hotel_site

SET stay_place=(SELECT destination FROM customer NATURAL JOIN
travel_website WHERE travel_website.booking_id=hotel_site.booking_id);


UPDATE hotel_site

SET hotel_site.no_of_travellers=(SELECT travellers FROM customer NATURAL
JOIN travel_website

where hotel_site.booking_id=travel_website.booking_id);


UPDATE hotel1

SET no_of_rooms=(SELECT CEIL(no_of_travellers/2) FROM hotel_site where
hotel_site.booking_id=hotel1.booking_id),

stay_place=(SELECT stay_place FROM hotel_site WHERE
hotel_site.booking_id=hotel1.booking_id);




CREATE VIEW XYZ AS SELECT no_of_rooms*roomrent AS
ROOMRENT,booking_id FROM (SELECT * FROM hotel1 NATURAL JOIN hotel2);

UPDATE hotel_site

SET accomodation_charges=(SELECT ROOMRENT FROM XYZ WHERE
hotel_site.booking_id=XYZ.booking_id);


UPDATE travel_website

SET costt=(SELECT hotel_site.accomodation_charges FROM hotel_site WHERE
hotel_site.booking_id=travel_website.booking_id)+
```

(SELECT travel_agency.travelling_charges FROM travel_agency WHERE travel_agency.booking_id=travel_website.booking_id);

UPDATE customer

SET trip_expenses=(SELECT costt FROM travel_website WHERE travel_website.phone_no=customer.phone_no);

1.customer

```
Name                Null?        Type
-------------       --------     -------------
C_NAME                           VARCHAR2(20)
START_DATE                       DATE
RETURN_DATE                      DATE
TRAVELLERS                       NUMBER(38)
SOURCEE                          VARCHAR2(20)
DESTINATION                      VARCHAR2(20)
PHONE_NO            NOT NULL     NUMBER(10)
CARD_NO                          NUMBER(20)
TRIP_EXPENSES                    NUMBER(38)
Name                Null?        Type
```

2.Travel_website

```
Name            Null?        Type
----------      --------     -------------
NAMEE           NOT NULL     VARCHAR2(50)
ADDRESS                      VARCHAR2(100)
RATING                       NUMBER
ROOMRENT                     NUMBER
NO_OF_ROOMS                  NUMBER
STAY_PLACE                   VARCHAR2(20)
BOOKING_ID      NOT NULL     NUMBER(38)
```

3.Cab_services

```
Name          Null?      Type
---------  --------   ----------
CAPACITYY               NUMBER(38)
PHONE_NO   NOT NULL   NUMBER(10)
CAB_NO     NOT NULL   NUMBER(38)
```

4.Tourist_places

```
Name             Null?      Type
---------------  --------   ---------------
SPOT_NAME        NOT NULL   NVARCHAR2(100)
SPOT_ADDRESS     NOT NULL   NVARCHAR2(100)
SPECIALTY                   NVARCHAR2(100)
DESTINATION                 NVARCHAR2(20)
RESTAURENT_NAME             NVARCHAR2(30)
RATING                      FLOAT(126)
```

5.Travel_agency

```
Name                Null?      Type
------------------  --------   ----------
START_VNO                      NUMBER(38)
RETURN_VNO                     NUMBER(38)
START_SNO                      NUMBER(38)
RETURN_SNO                     NUMBER(38)
TRAVELLING_CHARGES             NUMBER(38)
BOOKING_ID          NOT NULL   NUMBER(38)
```

6.Hotel_site

```
Name                        Null?      Type
-----------------------  ---------  ------------
STAY_HOTEL               NOT NULL   VARCHAR2(20)
NO_OF_TRAVELLERS                    NUMBER
ACCOMODATION_CHARGES                NUMBER
BOOKING_ID               NOT NULL   NUMBER(38)
```

7.Hotel1

```
Name                  Null?      Type
-----------------  ---------  ------------
NO_OF_ROOMS                   NUMBER
STAY_PLACE                    VARCHAR2(20)
BOOKING_ID         NOT NULL   NUMBER(38)
```

8.Hotel2

```
Name             Null?      Type
-----------  ---------  ------------
NAMEE        NOT NULL   VARCHAR2(50)
ADDRESS      NOT NULL   VARCHAR2(100)
RATING                  NUMBER
ROOMRENT                NUMBER
BOOKING_ID              NUMBER(38)
```