AMERICAN INTERNATIONAL UNIVERSITY BANGLADESH (AIUB)

FACULTY OF SCIENCE AND TECHNOLOGY

Introduction to Database

Summer 2022-2023

PROJECT TITLE: Tourism Management System.

Group Members:

Name	ID	Contribution
Abul Bashar Saurov	22-48823-3	Table Creation
Kamrul Hasan Tonmoy	22-48825-3	Data Insertion
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Md Kamruzzamn Jubo	22-47692-2	Normalization

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Contents

1 INTRODUCTION

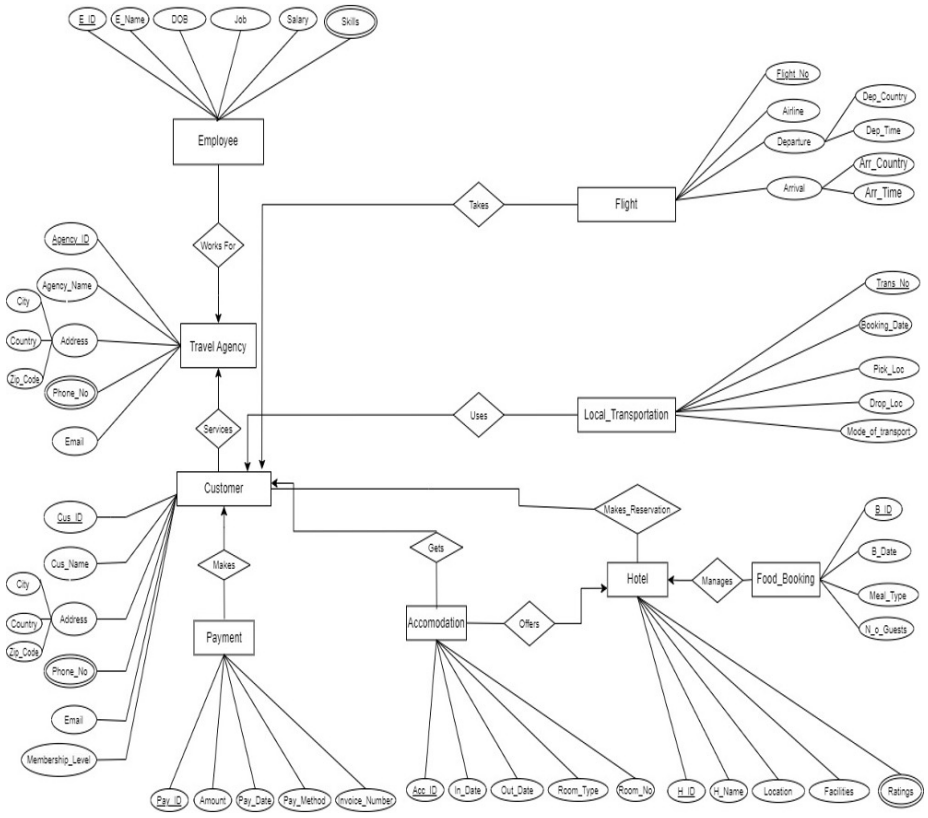
In today's fast-paced world, managing travel arrangements has become increasingly complex. Our project is based on a tourism management system which aims to establish a comprehensive and efficient solution for managing travel arrangements. By creating a centralized database, this project seeks to streamline the process of storing and retrieving critical travel information such as flight bookings, hotel reservations, food, transportation, and more. This system benefits both travel agencies and individual users by providing improved efficiency and a seamless travel experience.

2 SCENARIO

In a tourism management system, a travel agency employs various types of employees to handle tasks. A travel agency contains agency ID, name, address, phone number, and email address. An employee has an employee ID, name, date of birth, job type, salary, and skills. Customers register with customer ID, name, address, phone number, email, and membership level.

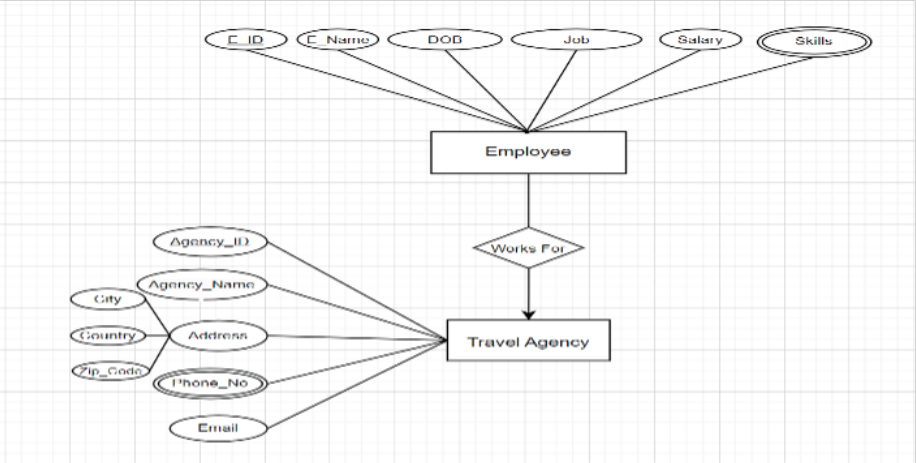
Various addresses are composed of city, country, and zip code. Customers make payments for facilities, take flights, use local transportation, and make reservations at hotels. Hotels offer accommodations, and customers get accommodations. Payment processes are tracked using payment ID, amount, payment date, payment method, and invoice number.

3 ER DIAGRAM


E_ID
E_Name
DOB
Job
Salary
Skills
Employee
Works For
Takes
Flight
Flight_No
Airline
Departure
Dep_Country
Dep_Time
Arrival
Arr_Country
Arr_Time
Agency_ID
Agency_Name
City
Country
Address
Zip_Code
Phone_No
Email
Travel Agency
Services
Uses
Local_Transportation
Trans_No
Booking_Date
Pick_Loc
Drop_Loc
Mode_of_transport
Customer
Cus_ID
Cus_Name
City
Country
Address
Zip_Code
Phone_No
Email
Membership_Level
Makes
Payment
Pay_ID
Amount
Pay_Date
Pay_Method
Invoice_Number
Gets
Accomodation
Offers
Acc_ID
In_Date
Out_Date
Room_Type
Room_No
Makes_Reservation
Hotel
H_ID
H_Name
Location
Facilities
Ratings
Manages
Food_Booking
B_ID
B_Date
Meal_Type
N_o_Guests

4 NORMALIZATION

4.1 Employee – works for – Travel Agency



Relation: Many to One

UNF:

- Agency ID
- Agency_Name
- City
- Country
- Zip_code
- Phone_No
- Email
- E_ID
- E_Name
- DOB (Date of Birth)
- Job Title
- Salary
- Skills

1NF:

- Agency ID

- Agency_Name
- City
- Country
- Zip_code
- Email
- E_ID
- E_Name
- DOB (Date of Birth)
- Job Title
- Salary

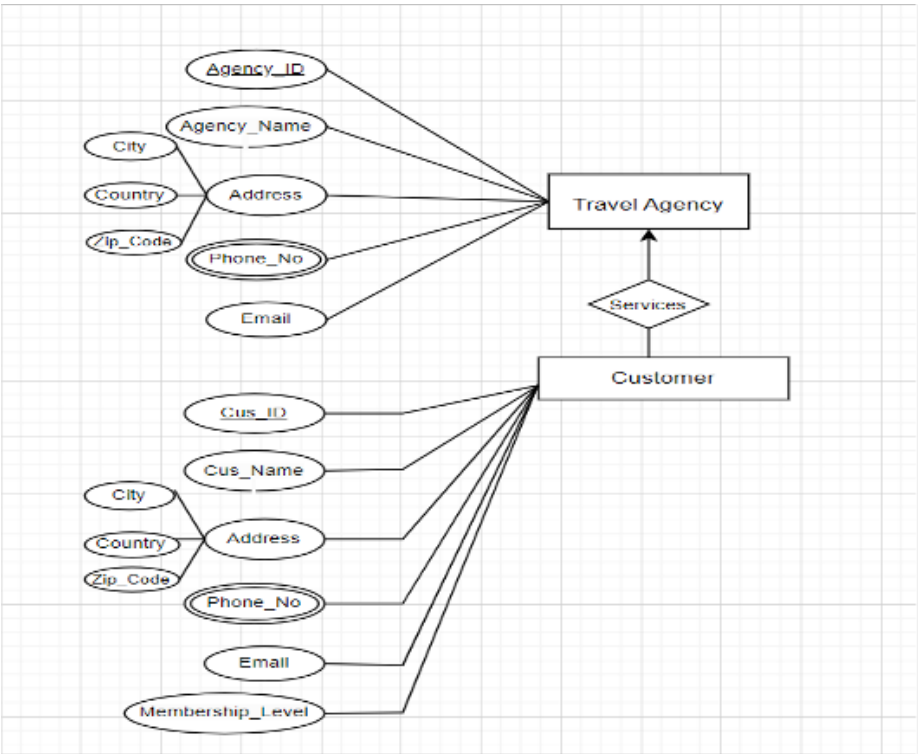
2NF:

1. Agency ID, Phone_No
2. E_ID, Skills
3. Agency ID, Agency_Name, City, Country, Zip_code, Email
4. E_ID, E_Name, DOB, Job Title, Salary, Agency ID

3NF:

1. Agency ID, City, Country, Zip_code
2. Agency ID, Phone_No
3. E_ID, Skills
4. Agency ID, Agency_Name, Email
5. E_ID, E_Name, DOB, Job Title, Salary, Agency ID

4.2 Travel Agency – services – Customer



Relation: One to Many

UNF: Agency_ID,Agency_Name,City,Country,Zip_Code,, Phone_No, Email, Cus_ID , Cus_Name, City, Country, Zip_code, Email, Phone_No, Membership_Level

1NF:

Multivalued attributes: Phone_No, Phone_No. Agency_ID, Agency_Name, City, Country, Zip_code, Email, Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level

2NF:

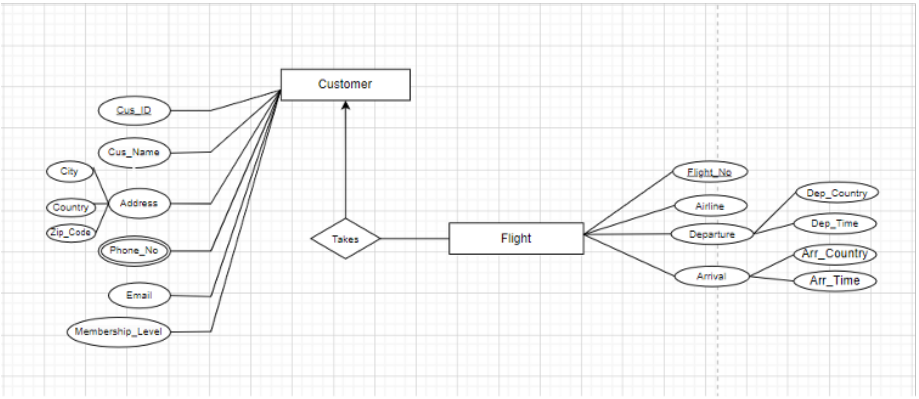
1. Agency_ID,Phone_No
2. Cus_ID,Phone_No
3. Agency_ID,Agency_Name,City,Country,Zip_code,Email
4. Cus_ID,Cus_Name,City,Country,Zip_Code,Email,Membership_Level,Agency_ID

3NF:

1. Agency_ID,City,Country,Zip_Code
2. Cus_ID,City,Country,Zip_Code

3. Agency_ID,Phone_No
4. Cus_ID,Phone_No
5. Agency_ID,Agency_Name,Email
6. Cus_ID,Cus_Name,Email,Membership_Level,Agency_ID

4.3 Customer – takes – Flight



Relation: One to Many

UNF: Cus_ID, Cus_Name, City, Country, Zip_code, Email, phone_no, Membership_Level,Flight_No , Airline, Dep_Country, Arr_Country, Dep_Time, Arr_Time

1NF: Multivalued attributes: Phone_No Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level, Flight_No, Airline, Dep_Country, Arr_Country, Dep_Time, Arr_Time

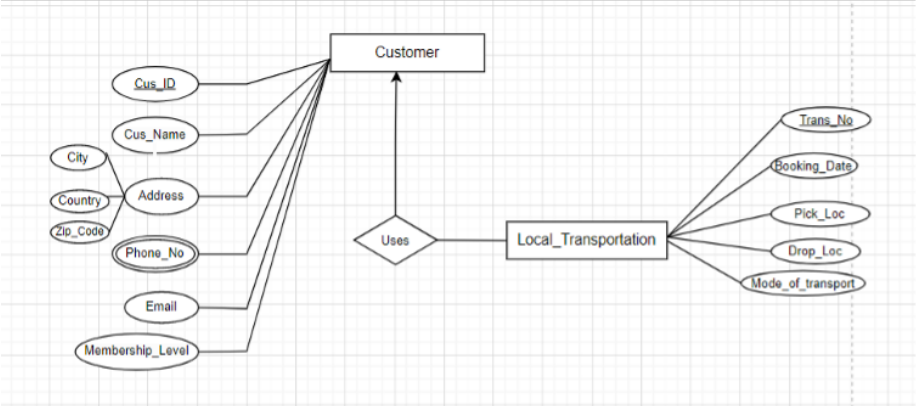
2NF:

1. Cus_ID, Phone_No
2. Flight_No, Airline, Dep_Country, Arr_Country, Dep_Time, Arr_Time, Cus_ID
3. Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level

3NF:

1. Cus_ID, Phone_No
2. Flight_No, Dep_Country, Arr_Country, Dep_Time, Arr_Time
3. Cus_ID, City, Country, Zip_code
4. Cus_ID, Cus_Name, Email, Membership_Level
5. Flight_No, Airline, Cus_ID

4.4 Customer – uses – Local_Transportation



Relation: One to Many

UNF:

Cus_ID, Cus_Name, City, Country, Zip_code, Email, Phone_No, Membership_Level, Trans_No, Booking_Date, Pick_Loc, Drop_Loc, Mode_of_Transport

1NF:

Multivalued attributes: Phone_No Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level, Trans_No, Booking_Date, Pick_Loc, Drop_Loc, Mode_of_Transport

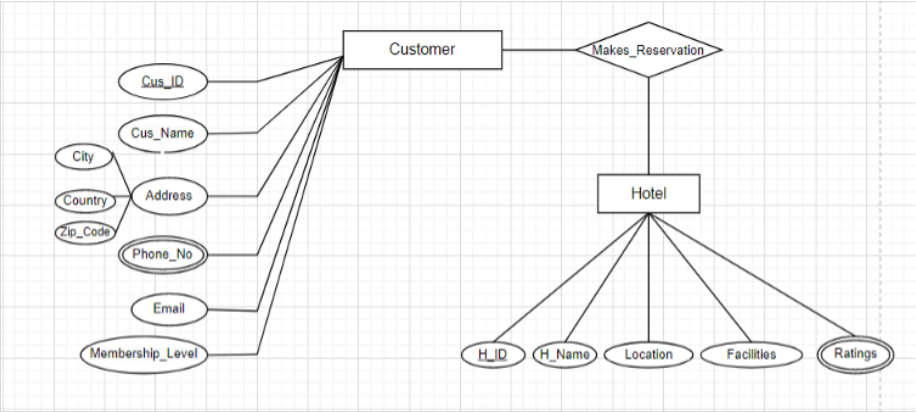
2NF:

1. Cus_ID, Phone_No
2. Trans_No, Booking_Date, Pick_Loc, Drop_Loc, Mode_of_Transport,Cus_ID
3. Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level

3NF:

1. Cus_ID, City, Country, Zip_code
2. Cus_ID, Phone_No
3. Trans_No, Booking_Date, Pick_Loc, Drop_Loc, Mode of Transport, Cus_ID
4. Cus_ID, Cus_Name, Email, Membership_Level

4.5 Customer – makes$_r$*eservation–Hotel*



Relation: Many to Many

UNF:

Cus_ID, Cus_Name, City, Country, Zip_code, Email, Phone_No, Membership_Level, H_ID, H_Name, Location, Facilites, Ratings

1NF:

Multivalued attributes: Phone_No, Ratings Cus_ID, Cus_Name, City, Country, Zip_code, Email, Phone_No, Membership_Level, H_ID, H_Name, Location, Facilites

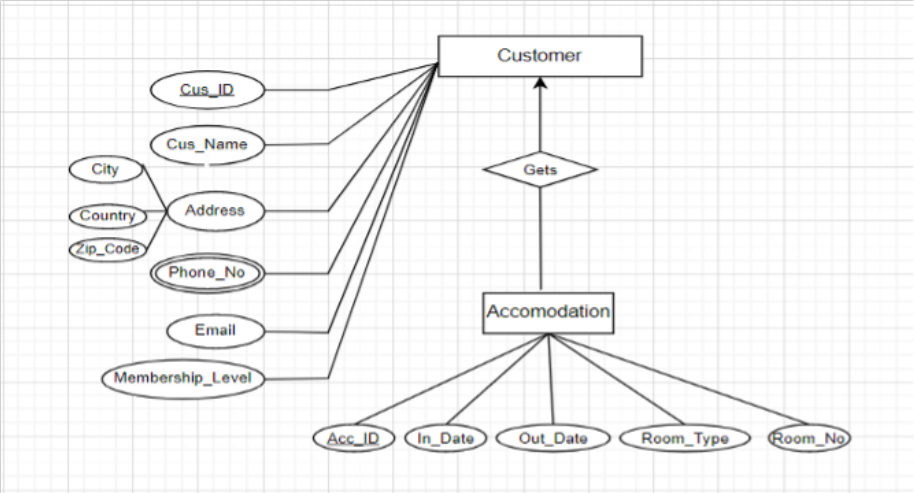
2NF:

1. Cus_ID, Phone_No
2. H_ID, Ratings
3. Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level
4. H_ID, H_Name, Location, Facilites, Cus_ID

3NF:

1. Cus_ID, City, Country, Zip_code
2. Cus_ID, Phone_No
3. H_ID, Ratings
4. Cus_ID, Cus_Name, Email, Membership_Level
5. H_ID, H_Name, Location, Facilites, Cus_ID

4.6 Customer – gets - Accommodation



Relation: One to Many

UNF:

Cus_ID, Cus_Name, City, Country, Zip_code, Email, phone_no, Membership_Level, Acc_ID, In_Date, Out_Date, Room_Type, Room_No

1NF:

Multivalued attributes: Phone_No Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level, Acc_ID, In_Date, Out_Date, Room_Type, Room_No

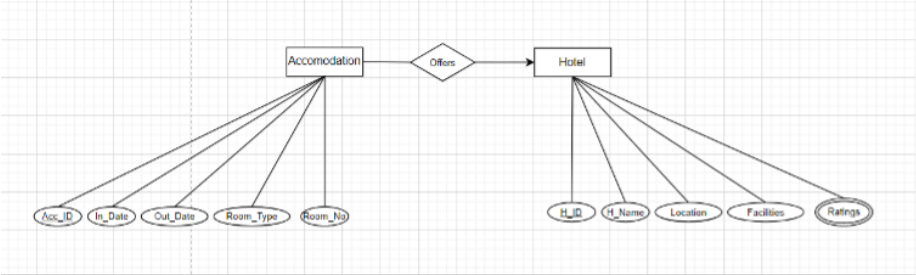
2NF:

1. Cus_ID, Phone_No
2. Acc_ID, In_Date, Out_Date, Room_Type, Room_No, Cus_ID
3. Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level

3NF:

1. Cus_ID, City, Country, Zip_code
2. Cus_ID, Phone_No
3. Cus_ID, Cus_Name, Email, Membership_Level
4. Acc_ID, In_Date, Out_Date, Room_Type, Room_No, Cus_ID

4.7 Hotel – offers – Accommodation



Relation: One to Many

UNF:

Acc_ID, In_Date, Out_Date, Room_Type, Room_No, H_ID, H_name, location, Facilites, Ratings

1NF:

Multivalued attributes: Ratings Acc_ID, In_Date, Out_Date, Room_Type, Room_No, H_ID, H_name, location, Facilites

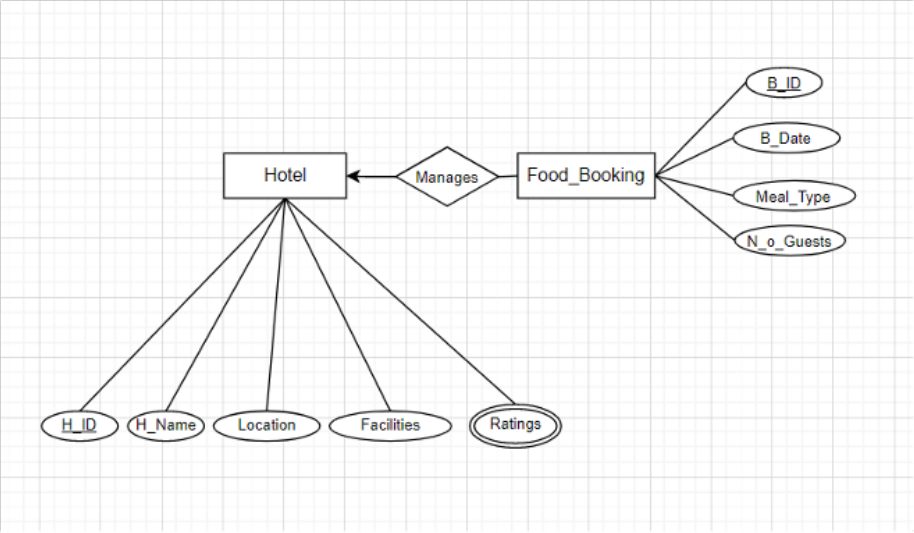
2NF:

1. H_ID, Ratings
2. Acc_ID, In_Date, Out_Date, Room_Type, Room_No, H_ID
3. H_ID, H_name, location, Facilites

3NF:

1. H_ID, Ratings
2. Acc_ID, In_Date, Out_Date, Room_Type, Room_No, H_ID
3. H_ID, H_name, location, Facilites

4.8 Hotel – manages – Food$_{B}ooking$



One to Many

UNF:

H_ID, H_name, location, Facilites, Ratings, B_ID, B_Date, Meal_Type, N_o_Guests

1NF:

Multivalued attributes: Ratings H_ID, H_name, location, Facilites, B_IDB_ID, B_Date, Meal_Type, N_o_Guests

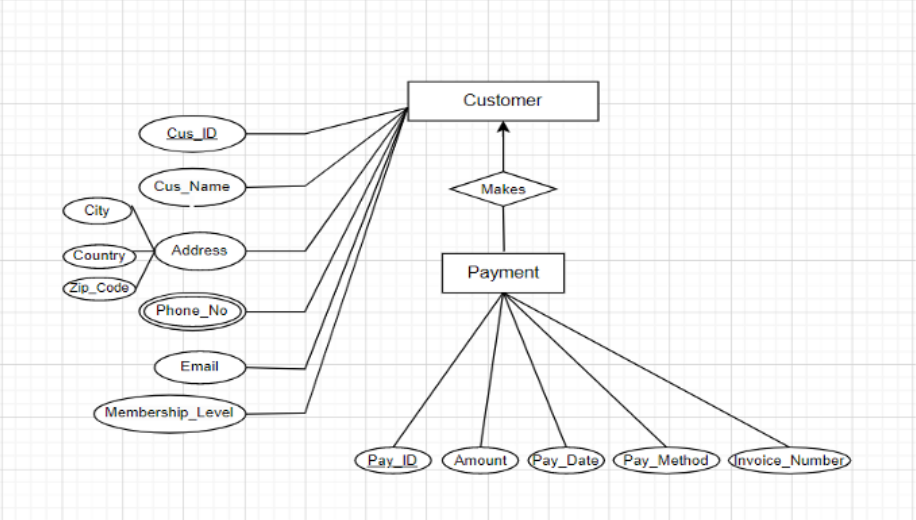
2NF:

1. H_ID, Ratings
2. H_ID, H_name, location, Facilites
3. B_ID, B_Date, Meal_Type, N_o_Guests, H_ID

3NF:

1. H_ID, Ratings
2. H_ID, H_name, location, Facilites
3. B_ID, B_Date, Meal_Type, N_o_Guests, H_ID

4.9 Customer – makes – Payment



Relation: One to Many

UNF:

Cus_ID, Cus_Name, City, Country, Zip_code, Email, phone_no, Membership_Level, Pay_ID, Amount, Pay_Date, Pay_Method, Invoice_Number, Phone_No

1NF:

Multivalued attributes: Phone_No Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level, Pay_ID, Amount, Pay_Date, Pay_Method, Invoice_Number_Phone_No

2NF:

1. Cus_ID, Phone_No
2. Cus_ID, Cus_Name, City, Country, Zip_code, Email, Membership_Level
3. Pay_ID, Amount, Pay_Date, Pay_Method, Invoice_Number, Cus_ID

3NF:

1. Cus_ID, City, Country, Zip_code
2. Cus_ID, Phone_No
3. Cus_ID, Cus_Name, Email, Membership_Level
4. Pay_ID, Amount, Pay_Date, Pay_Method, Invoice_Number, Cus_ID

5 FINALIZATION

1. Agency_ID,City,Country,Zip_code
2. Agency _ID,Phone No
3. E _ID, Skills
4. Agency_ID,Agency_Name, Zip _code,Email
5. E _ID, E_Name, DOB, Job_Title, Salary, **Agency_ID**
6. Agency_Id, City, Country,Zip_code
7. Cus_ID, City, Country,Zip_code
8. Agency_ID, Phone_No
9. Cus_ID,Phone_No
10. Agency_Id, Agency Name, Email
11. Cus_ID, Cus_Name,Email, Membership_Level,**Agency_ID**
12. Cus_ID, City, Country, Zip_code
13. Cus_ID, Phone_No
14. Trans_No, Booking_Date, Pick_Loc, Drop _Loc, Mode of Transport, **Cus_Id**
15. Cus_ID, Cus_Name, Email, Membership_Level
16. Cus_ID,City, Country,Zip_code
17. Cus_ID,Phone_No
18. H_ID, Ratings
19. Cus_ID,Cus_Name,Email,Membership_Level
20. H_ID, H_Name, Locations, Facilities, **Cus_ID**
21. Cus_ID, City, Country, Zip_code
22. Cus_ID,Phone_No
23. Cus_ID, Cus_Name, Email, Membership_Level
24. Pay_ID, Amount, Pay_Date, Pay_ Method, Invoice_Number,Cus_ID
25.]H_ID, Ratings
26. H_ID, H_Name, Location, Facilities
27. B_ID, B_Date, Meal_Type, N_o_Guests,**H_ID**

28. Cus_ID, City, Country, Zip_code
29. Cus_ID, Phone_No
30. Cus_ID, Cus_Name, Email, Membership_Level
31. Acc_ID, In_Date, Out_Date, Room_Type, Room_No, **Cus_ID**
32. H_ID,Ratings
33. Acc_ID, In_Date, Out_Date, Room_Type, Room_No, **H_ID**
34. H_ID, H_Name, Locations, Facilities
35. Cus_ID, Phone_No
36. Flight_No, Dep_Country, Arr_Country, Dep_Time
37. Cus_ID, City, Country, Zip_code
38. Cus_ID, Email, Membership_Level
39. Flight_No, Airines, **Cus_ID**

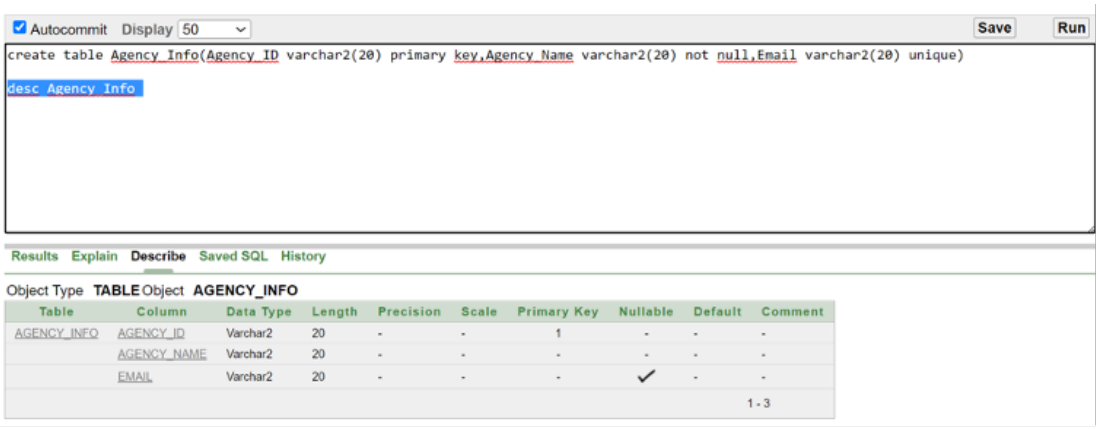
6 OPTIMAIZATION

1. Agency_ID, City, Zip_code -(Agency_Loc)
2. Agency_ID, Phone_No -(Agency_Con)
3. Agency_ID, Agency_Name, Email -(Agency_Info)
4. E_ID, Skills -(EMP_Skill)
5. E_ID, E_Name, DOB, Job_Title, Salary, **Agency_ID** -(EMP_Info)
6. Cus_ID City, Country, Zip_code – (CUS_Loc)
7. Cus _ID, Phone _No -(Cus _con)
8. Cus_ID,Cus_Name, Email, Membership_Level, **Agency_ID** – (CUS_Info)
9. Flight_No, Dep_Country, Arr_Country, Dep_Time, Arr_Time - (Airline_Info)
10. Flight_No, Airline, **Cus_ID** -(Airlline)
11. Trans_No, Booking_Date, Pick_Loc, Drop_Loc, Mode_of_Transport, **Cus_ID** -(Transportation)
12. H_ID, Name, Location, Facilities, **Cus_ID** -(Hotel_Info)
13. H_ID, Ratings -(Hotel_Ratings)
14. Acc_ID, In_Date, Out_Date, Room_Type, Room_No, **Cus_ID**,**H_ID** -(Accommodation)
15. B_ID, Meal_Type, N_o_Guests, **H_ID** -(Food_Booking)
16. Pay_ID, Amount, Pay_Date, Pay_Method, Invoice_Number, **Cus_ID** -(Payment)

7 TABLE CREATION

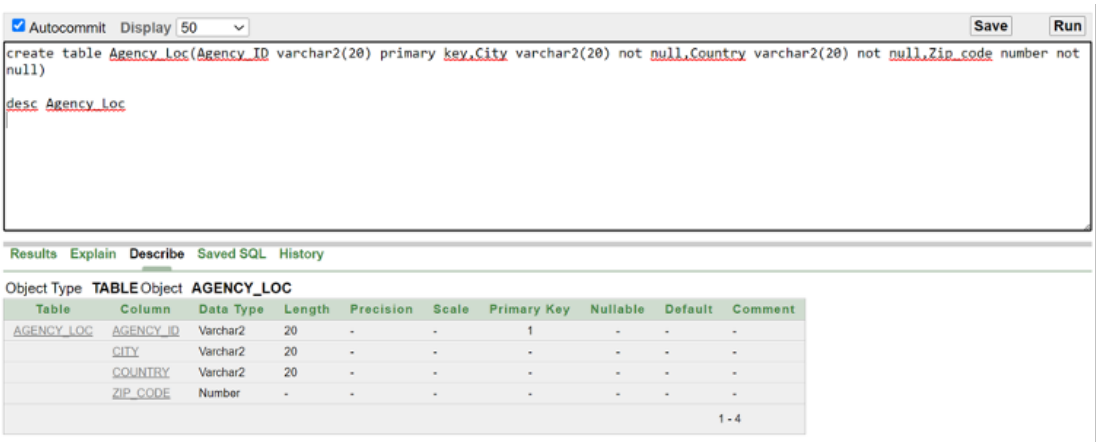
7.1 Agency_ID:

CREATE TABLE Agency_Info(Agency_ID varchar2(20) primary key,Agency_Name varchar2(20) not null, Email varchar2(20) unique) desc Agency_Info



7.2 Agency_Info :

CREATE Agency_Loc(Agency_ID varchar2(20) primary key,City varchar2(20) not null,Country varchar2(20) not null,Zip_code number not null) desc Agency_Loc

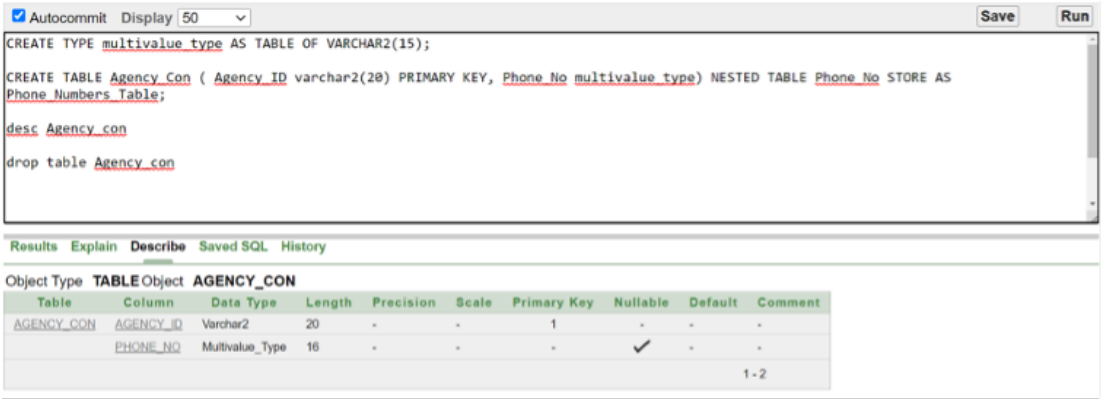


7.3 Agency_Con:

CREATE TYPE multivalue_type AS TABLE OF VARCHAR2(15); CREATE TABLE Agency_Con (Agency_ID varchar2(20) PRIMARY KEY, Phone_No multivalue_type) NESTED TABLE Phone_No STORE AS Phone_Numbers_Table;

desc Agency_con

drop table Agency_con

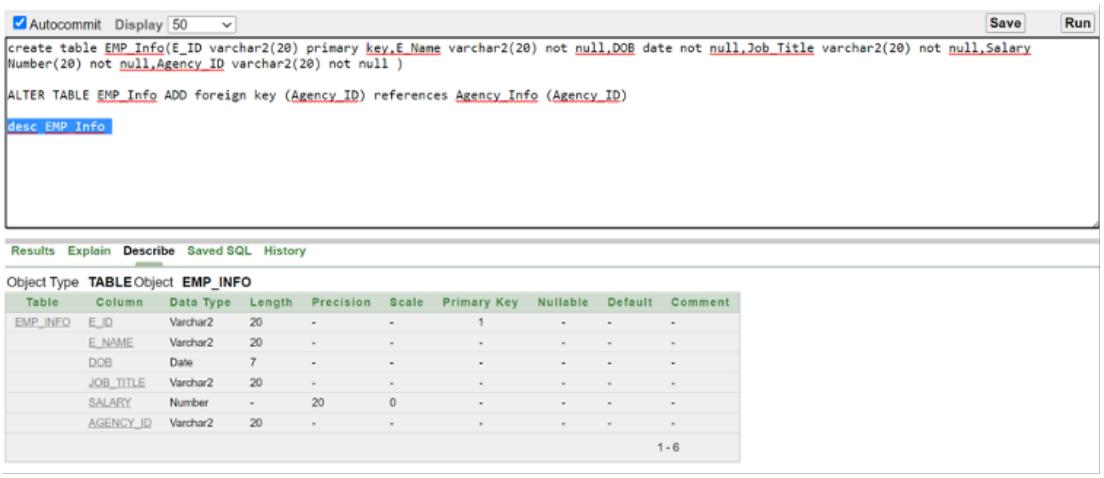


7.4 EMP_Info:

CREATE TABLE EMP_Info(E_ID varchar2(20) primary key,E_Name varchar2(20) not null,DOB date not null,Job_Title varchar2(20) not null,Salary Number(20) not null,Agency_ID varchar2(20) not null)

ALTER TABLE EMP_Info ADD foreign key (Agency_ID) references Agency_Info (Agency_ID)

desc EMP_Info

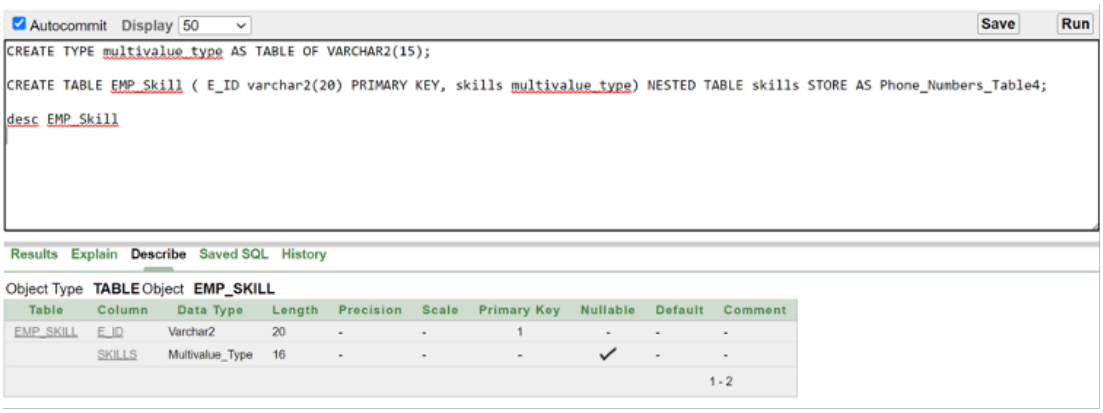


7.5 EMP_Skill:

CREATE TYPE multivalue_type AS TABLE OF VARCHAR2(15);

CREATE TABLE EMP_Skill (E_ID varchar2(20) PRIMARY KEY, skills multivalue_type) NESTED TABLE skills STORE AS Phone_Numbers_Table4;

desc EMP_Skill

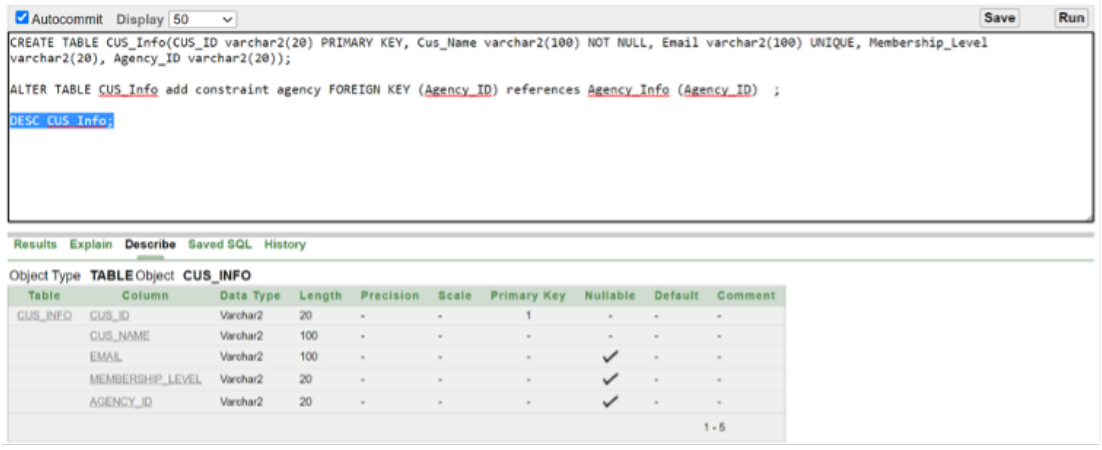


7.6 Cus_Info:

CREATE TABLE CUS_Info(CUS_ID varchar2(20) PRIMARY KEY, Cus_Name varchar2(100) NOT NULL, Email varchar2(100) UNIQUE, Membership_Level varchar2(20), Agency_ID varchar2(20));

ALTER TABLE CUS_Info add constraint agency FOREIGN KEY (Agency_ID) references Agency_Info (Agency_ID) ;

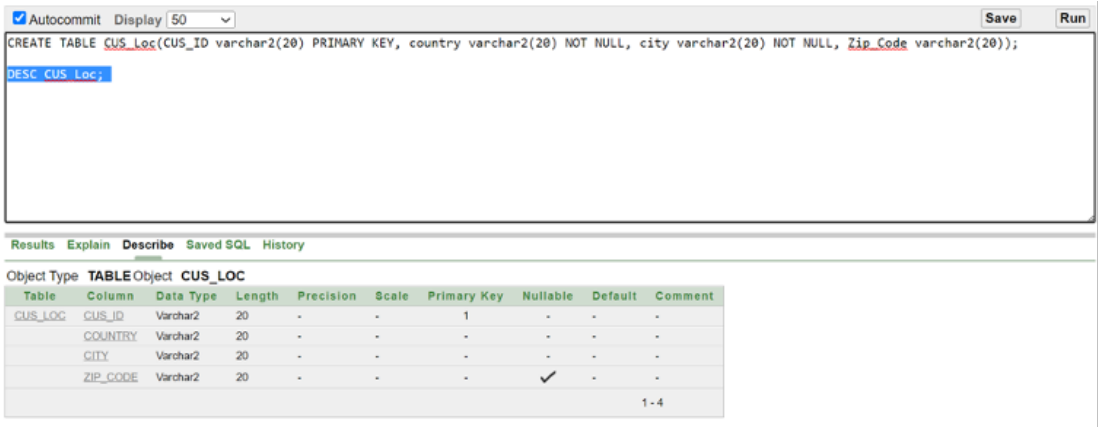
DESC CUS_Info;



7.7 Cus_Loc:

CREATE TABLE CUS_Loc(CUS_ID varchar2(20) PRIMARY KEY, country varchar2(20) NOT NULL, city varchar2(20) NOT NULL, Zip_Code varchar2(20));

DESC CUS_Loc

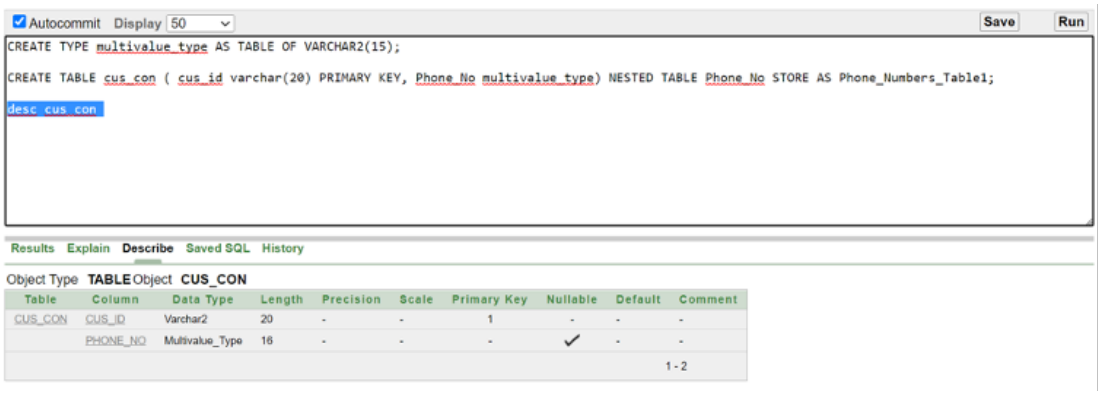


7.8 Cus_Con:

DESC cus_con;

INSERT INTO cus_con(CUS_ID, PHONE_NO) VALUES ('10', multivalue_type('018********', '019********')); INSERT INTO cus_con(CUS_ID, PHONE_NO) VALUES ('20', multivalue_type('01811******', '01822******')); INSERT INTO cus_con(CUS_ID, PHONE_NO) VALUES ('30', multivalue_type('018123*****', '015678*****', '016********'));

SELECT CUS_ID, COLUMN_VALUE AS PHONE_NO FROM cus_con , TABLE(cus_con.PHONE_NO);



7.9 Airline:

desc Airline

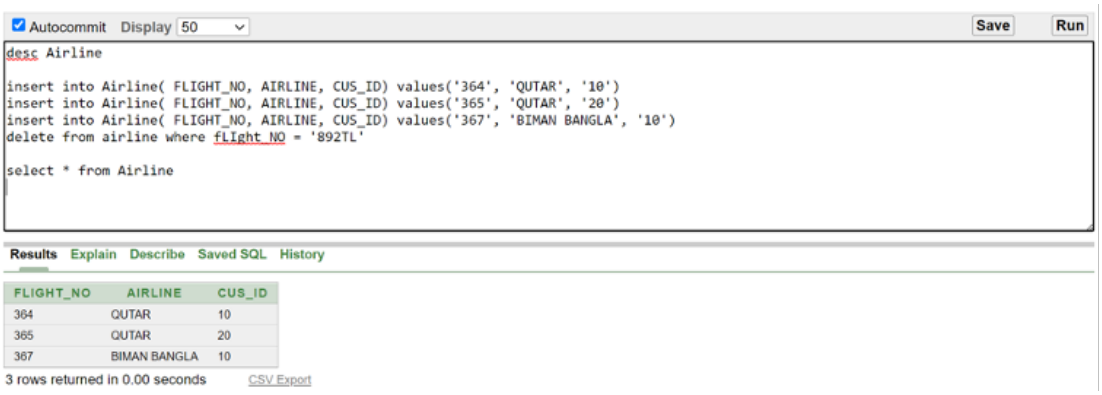
INSERT INTO Airline(FLIGHT_NO, AIRLINE, CUS_ID) values('364', 'QUTAR', '10')

INSERT INTO Airline(FLIGHT_NO, AIRLINE, CUS_ID) values('365', 'QUTAR', '20')

INSERT INTO Airline(FLIGHT_NO, AIRLINE, CUS_ID) values('367', 'BIMAN BANGLA', '10')

delete from airline where flight_NO = '892TL'

select * from Airline



7.10 Airline_Info:

desc Airline_Info

INSERT INTO Airline_Info(FLIGHT_NO, DEP_COUNTRY, ARR_COUNTRY, DEP_TIME, ARR_TIME) values('892TL','BANGLADESH','USA','26-NOV-22','28-NOV-22')

INSERT INTO Airline_Info(FLIGHT_NO, DEP_COUNTRY, ARR_COUNTRY, DEP_TIME, ARR_TIME) values('367FC','USA','UK','03-MAY-22','04-MAY-22')

select * from Airline_Info

7.11 Transportation:

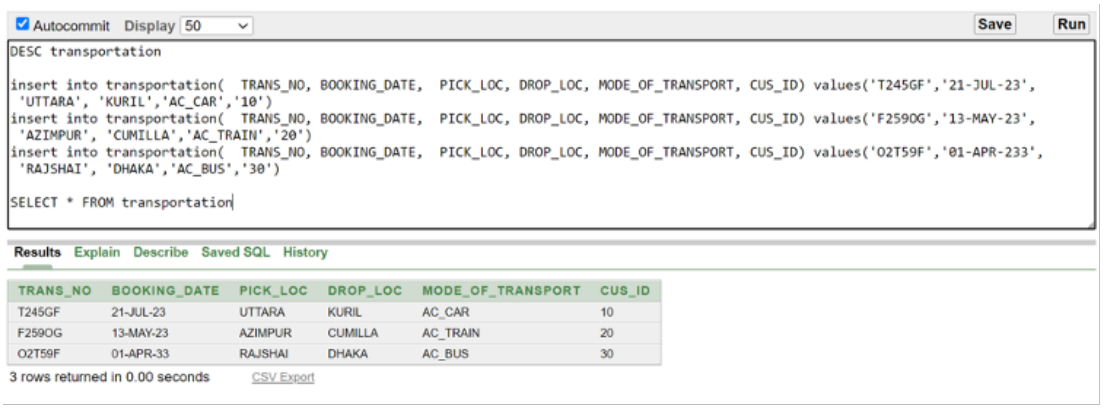
DESC transportation

INSERT INTO transportation(TRANS_NO, BOOKING_DATE, PICK_LOC, DROP_LOC, MODE_OF_TRANSPORT, CUS_ID) values('T245GF','21-JUL-23', 'UTTARA','KURIL','AC_CAR','10')

INSERT INTO transportation(TRANS_NO, BOOKING_DATE, PICK_LOC, DROP_LOC, MODE_OF_TRANSPORT, CUS_ID) values('F259OG','13-MAY-23', 'AZIMPUR', 'CUMILLA','AC_TRAIN','20')

INSERT INTO transportation(TRANS_NO, BOOKING_DATE, PICK_LOC, DROP_LOC, MODE_OF_TRANSPORT, CUS_ID) values('O2T59F','01-APR-233','RAJSHAI', 'DHAKA','AC_BUS','30')

SELECT * FROM transportation



7.12 Hotel_Info:

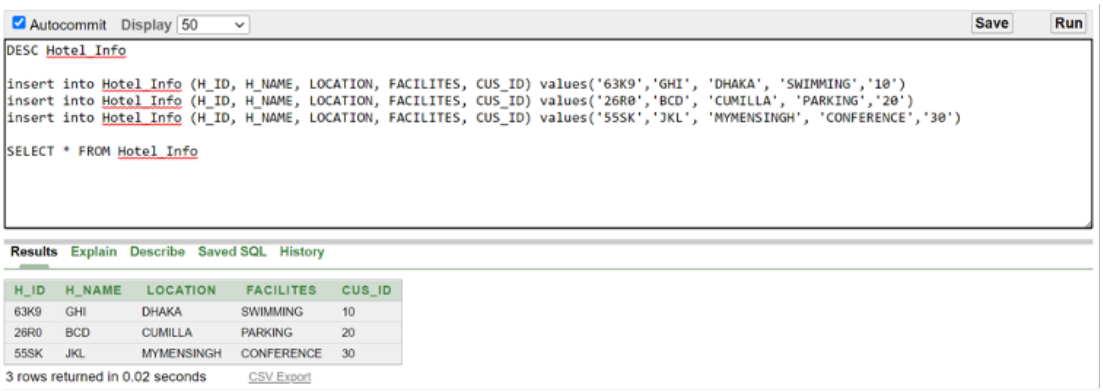
DESC Hotel_Info

INSERT INTO Hotel_Info (H_ID, H_NAME, LOCATION, FACILITES, CUS_ID) values('63K9','GHI', 'DHAKA', 'SWIMMING','10')

INSERT INTO Hotel_Info (H_ID, H_NAME, LOCATION, FACILITES, CUS_ID) values('26R0','BCD', 'CUMILLA', 'PARKING','20')

INSERT INTO Hotel_Info (H_ID, H_NAME, LOCATION, FACILITES, CUS_ID) values('55SK','JKL', 'MYMENSINGH', 'CONFERENCE','30')

SELECT * FROM Hotel_Info



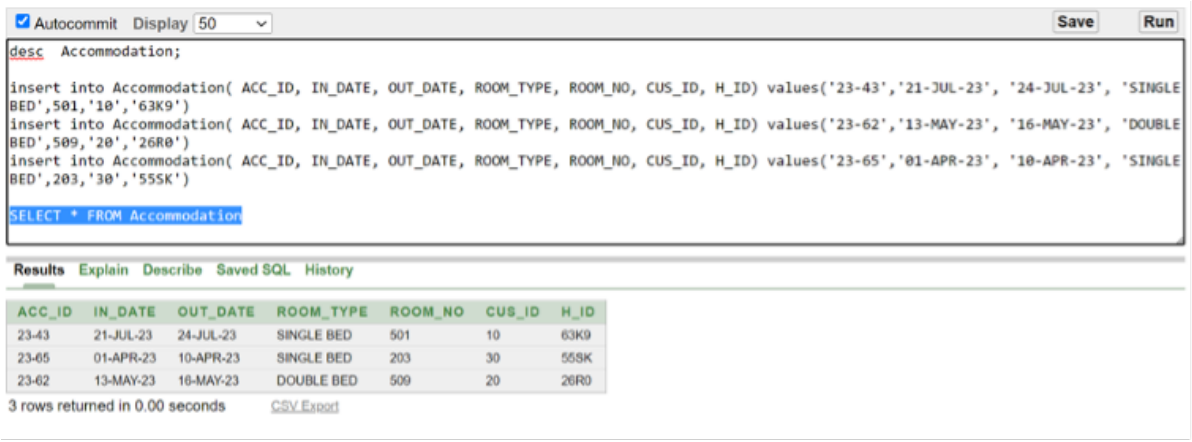
7.13 Accommodation:

insert into Accommodation(ACC_ID, IN_DATE, OUT_DATE, ROOM_TYPE, ROOM_NO, CUS_ID, H_ID) values('23-43','21-JUL-23', '24-JUL-23', 'SINGLE BED',501,'10','63K9')

insert into Accommodation(ACC_ID, IN_DATE, OUT_DATE, ROOM_TYPE, ROOM_NO, CUS_ID, H_ID) values('23-62','13-MAY-23', '16-MAY-23', 'DOUBLE BED',509,'20','26R0')

insert into Accommodation(ACC_ID, IN_DATE, OUT_DATE, ROOM_TYPE, ROOM_NO, CUS_ID, H_ID) values('23-65','01-APR-23', '10-APR-23', 'SINGLE BED',203,'30','55SK')

SELECT * FROM Accommodation



7.14 Food_Booking:

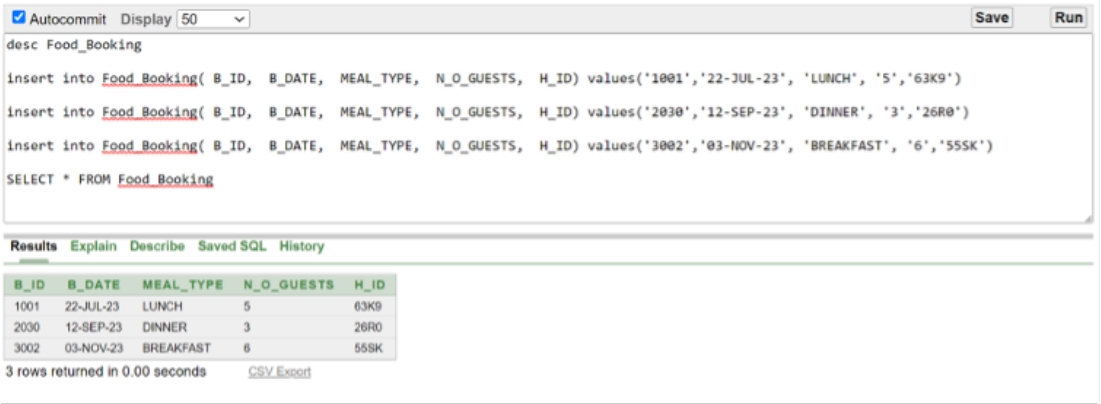
desc Food_Booking

insert into Food_Booking(B_ID, B_DATE, MEAL_TYPE, N_O_GUESTS, H_ID) values('1001','22-JUL-23', 'LUNCH', '5','63K9')

insert into Food_Booking(B_ID, B_DATE, MEAL_TYPE, N_O_GUESTS, H_ID) values('2030','12-SEP-23', 'DINNER', '3','26R0')

insert into Food_Booking(B_ID, B_DATE, MEAL_TYPE, N_O_GUESTS, H_ID) values('3002','03-NOV-23', 'BREAKFAST', '6','55SK')

SELECT * FROM Food_Booking

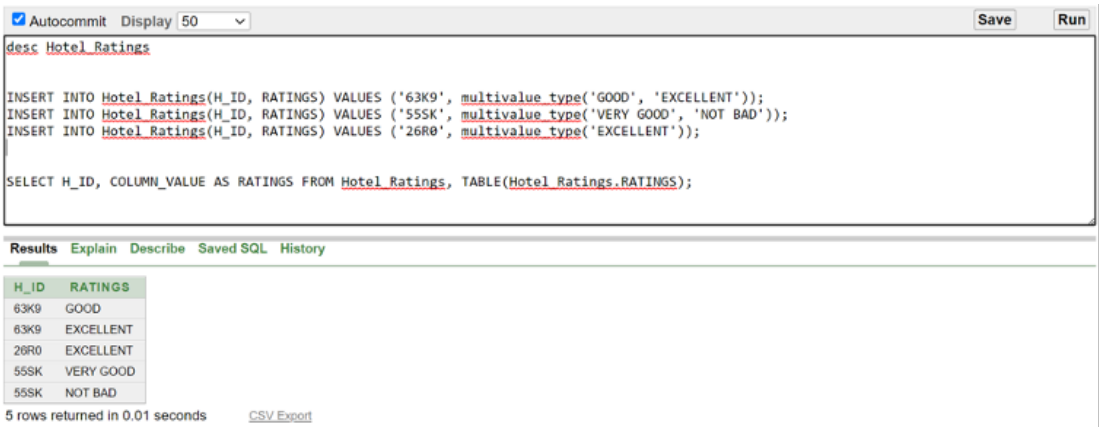


7.15 Hotel_Ratings:

desc Hotel_Ratings

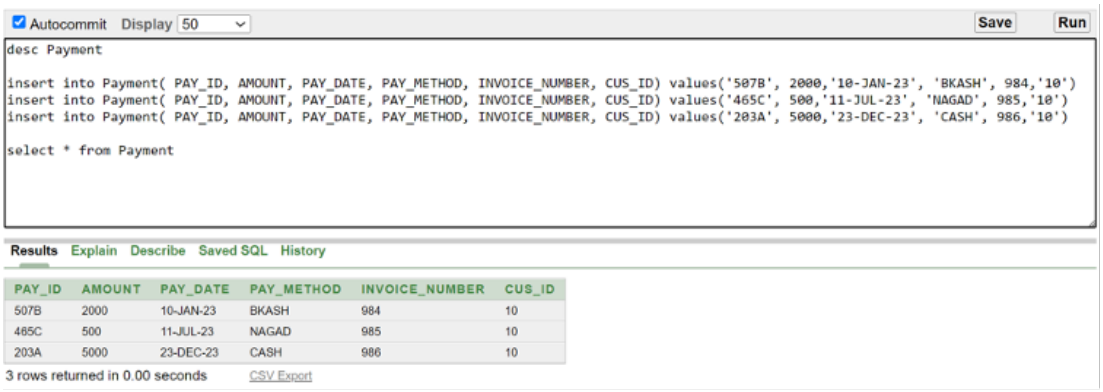
INSERT INTO Hotel_Ratings(H_ID, RATINGS) VALUES ('63K9', multivalue_type('GOOD', 'EXCELLENT')); INSERT INTO Hotel_Ratings(H_ID,

RATINGS) VALUES ('55SK', multivalue_type('VERY GOOD', 'NOT BAD'));
INSERT INTO Hotel_Ratings(H_ID, RATINGS) VALUES ('26R0', multivalue_type('EXCELLENT'));
SELECT H_ID, COLUMN_VALUE AS RATINGS FROM Hotel_Ratings, TABLE(Hotel_Ratings.RATINGS);



7.16 Payment:

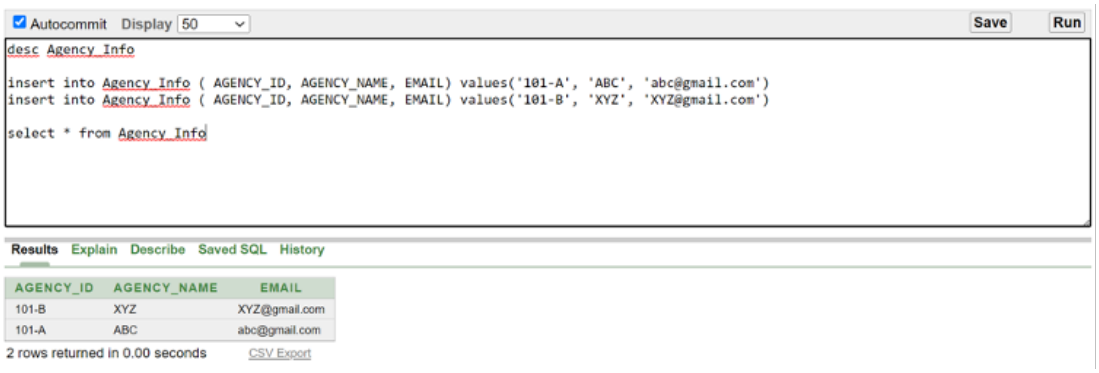
desc Payment
insert into Payment(PAY_ID, AMOUNT, PAY_DATE, PAY_METHOD, INVOICE_NUMBER, CUS_ID) values('507B', 2000,'10-JAN-23', 'BKASH', 984,'10')
insert into Payment(PAY_ID, AMOUNT, PAY_DATE, PAY_METHOD, INVOICE_NUMBER, CUS_ID) values('465C', 500,'11-JUL-23', 'NAGAD', 985,'10')
insert into Payment(PAY_ID, AMOUNT, PAY_DATE, PAY_METHOD, INVOICE_NUMBER, CUS_ID) values('203A', 5000,'23-DEC-23', 'CASH', 986,'10')



8 DATA INSERTION:

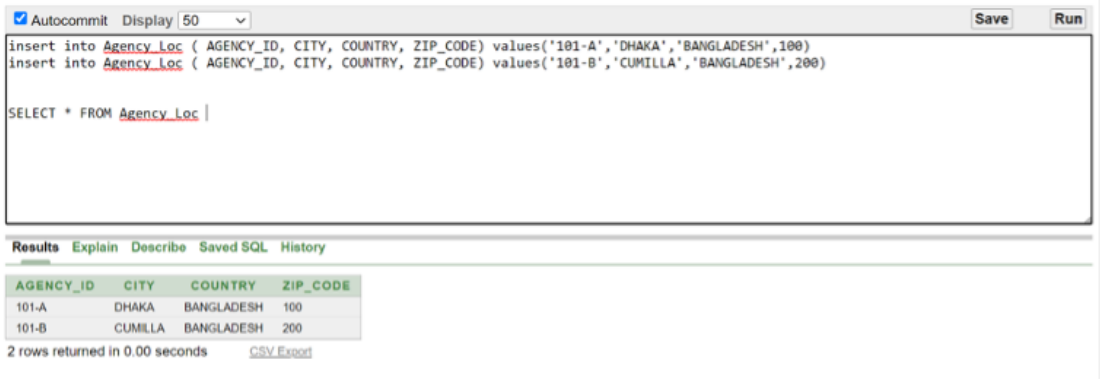
8.1 Agency_Info

desc Agency_Info insert into Agency_Info (AGENCY_ID, AGENCY_NAME, EMAIL) values('101-A', 'ABC', 'abc@gmail.com') insert into Agency_Info (AGENCY_ID, AGENCY_NAME, EMAIL) values('101-B', 'XYZ', 'XYZ@gmail.com') select * from Agency_Info



8.2 Agency_Loc

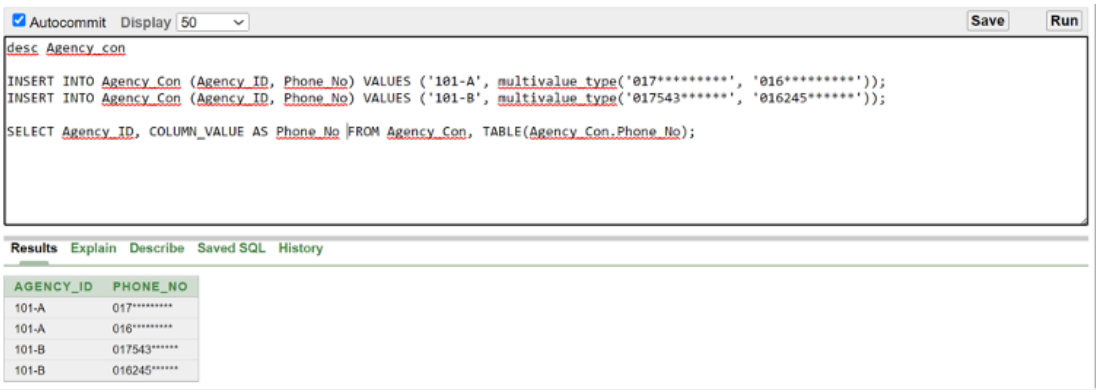
desc Agency_Loc insert into Agency_Loc (AGENCY_ID, CITY, COUNTRY, ZIP_CODE) values('101-A', 'DHAKA', 'BANGLADESH',100) insert into Agency_Loc (AGENCY_ID, CITY, COUNTRY, ZIP_CODE) values('101-B', 'CUMILLA', 'BANGLADESH',200) SELECT * FROM Agency_Loc



8.3 Agency_con

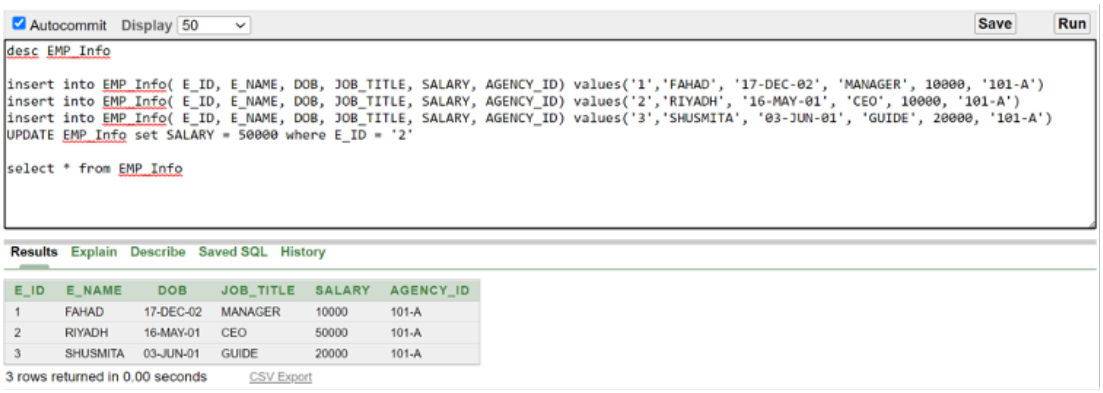
desc Agency_con INSERT INTO Agency_Con (Agency_ID, Phone_No) VALUES ('101-A', multivalue_type('017*********', '016*********')); INSERT INTO Agency_Con

(Agency_ID, Phone_No) VALUES ('101-B', multivalue_type('017543******', '016245******'));
SELECT Agency_ID, COLUMN_VALUE AS Phone_No FROM Agency_Con,
TABLE(Agency_Con.Phone_No);



8.4 EMP_Info

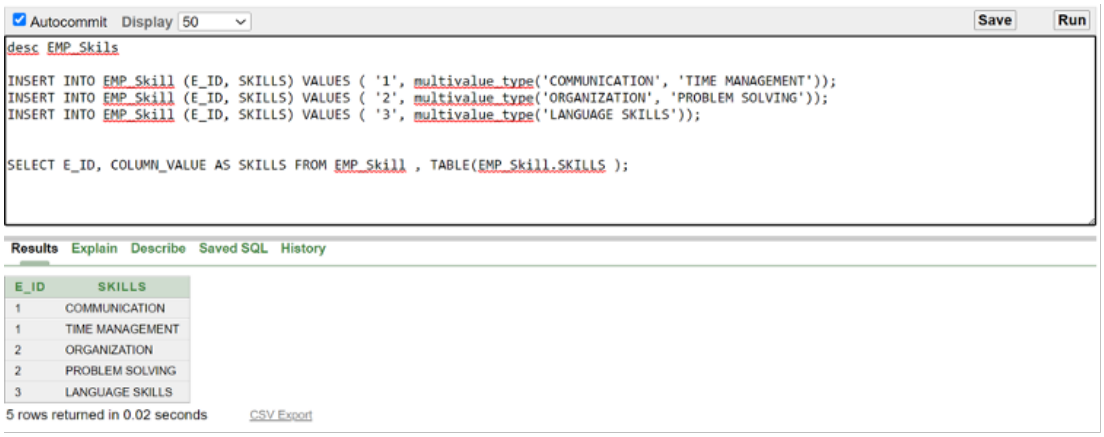
desc EMP_Info insert into EMP_Info(E_ID, E_NAME, DOB, JOB_TITLE, SALARY, AGENCY_ID) values('1','FAHAD', '17-DEC-02', 'MANAGER', 10000, '101- A') insert into EMP_Info(E_ID, E_NAME, DOB, JOB_TITLE, SALARY, AGENCY_ID) values('2','RIYADH', '16-MAY-01', 'CEO', 10000, '101-A') insert into EMP_Info(E_ID, E_NAME, DOB, JOB_TITLE, SALARY, AGENCY_ID) values('3','SHUSMITA', '03-JUN-01', 'GUIDE', 20000, '101-A') UPDATE EMP_Info set SALARY = 50000 where E_ID = '2' select * from EMP_Info



8.5 EMP_Skill

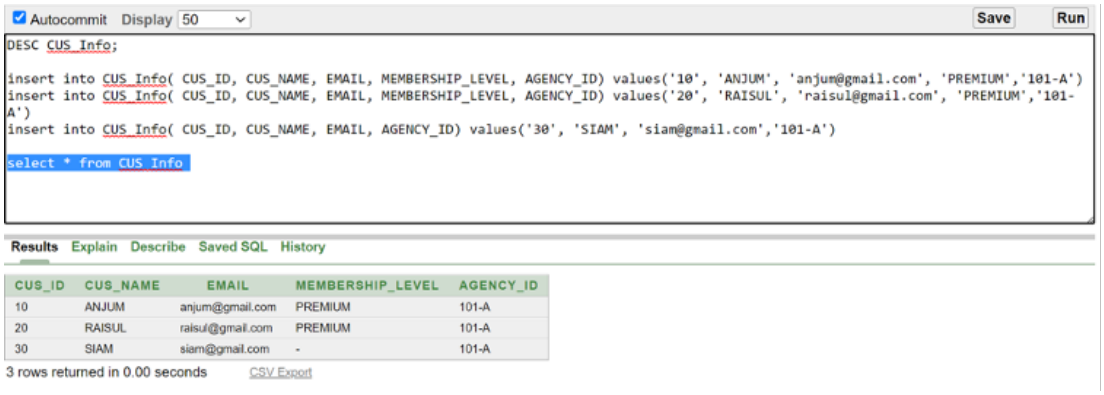
desc EMP_Skils INSERT INTO EMP_Skill (E_ID, SKILLS) VALUES ('1', multivalue_type('COMMUNICATION', 'TIME MANAGEMENT')); INSERT

INTO EMP_Skill (E_ID, SKILLS) VALUES ('2', multivalue_type('ORGANIZATION', 'PROBLEM SOLVING')); INSERT INTO EMP_Skill (E_ID, SKILLS) VALUES ('3', multivalue_type('LANGUAGE SKILLS')); SELECT E_ID, COLUMN_VALUE AS SKILLS FROM EMP_Skill , TABLE(EMP_Skill.SKILLS);



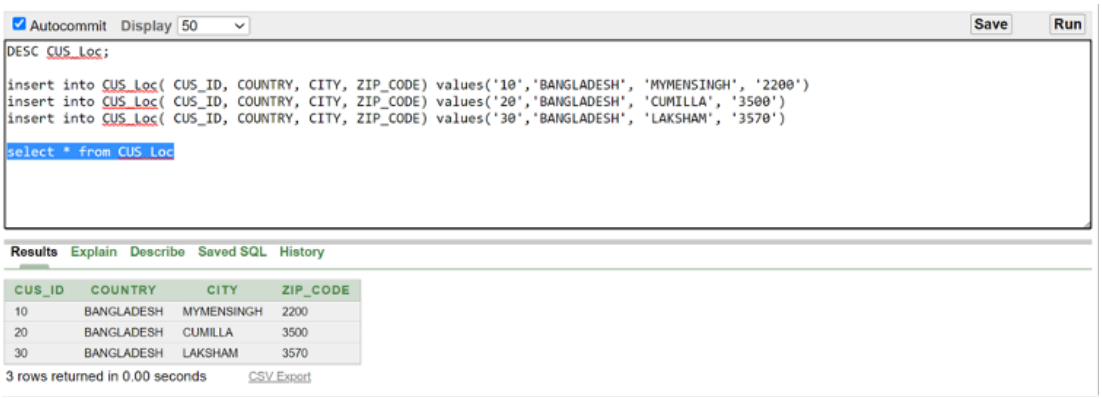
8.6 CUS_Info

DESC CUS_Info; insert into CUS_Info(CUS_ID, CUS_NAME, EMAIL, MEMBERSHIP_LEVEL, AGENCY_ID) values('10', 'ANJUM', 'anjum@gmail.com', 'PREMIUM','101-A') insert into CUS_Info(CUS_ID, CUS_NAME, EMAIL, MEMBERSHIP_LEVEL, AGENCY_ID) values('20', 'RAISUL', 'raisul@gmail.com', 'PREMIUM','101-A') insert into CUS_Info(CUS_ID, CUS_NAME, EMAIL, AGENCY_ID) values('30', 'SIAM', 'siam@gmail.com','101-A') select * from CUS_Info



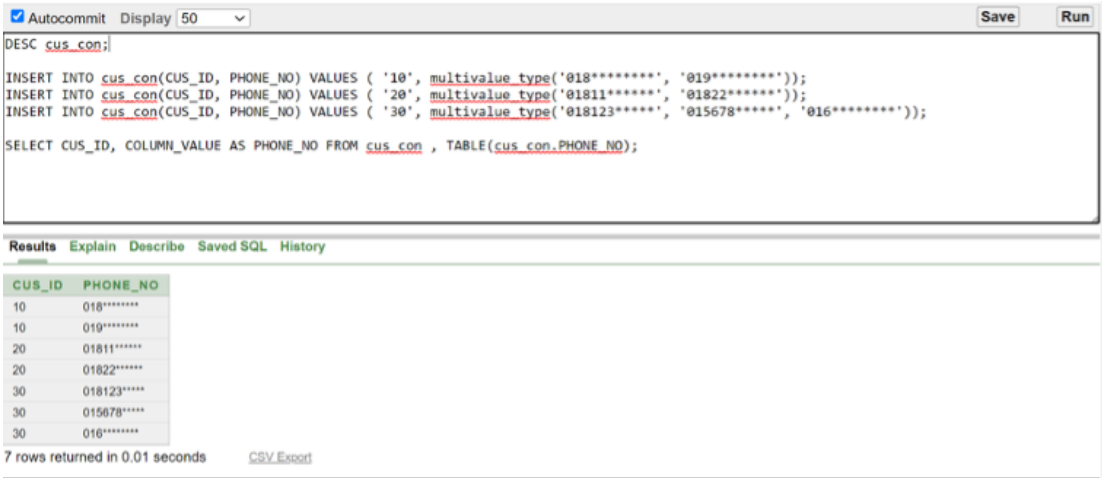
8.7 CUS_Loc

DESC CUS_Loc; insert into CUS_Loc(CUS_ID, COUNTRY, CITY, ZIP_CODE) values('10','BANGLADESH', 'MYMENSINGH', '2200') insert into CUS_Loc(CUS_ID, COUNTRY, CITY, ZIP_CODE) values('20','BANGLADESH', 'CUMILLA', '3500') insert into CUS_Loc(CUS_ID, COUNTRY, CITY, ZIP_CODE) values('30','BANGLADESH', 'LAKSHAM', '3570') select * from CUS_Loc



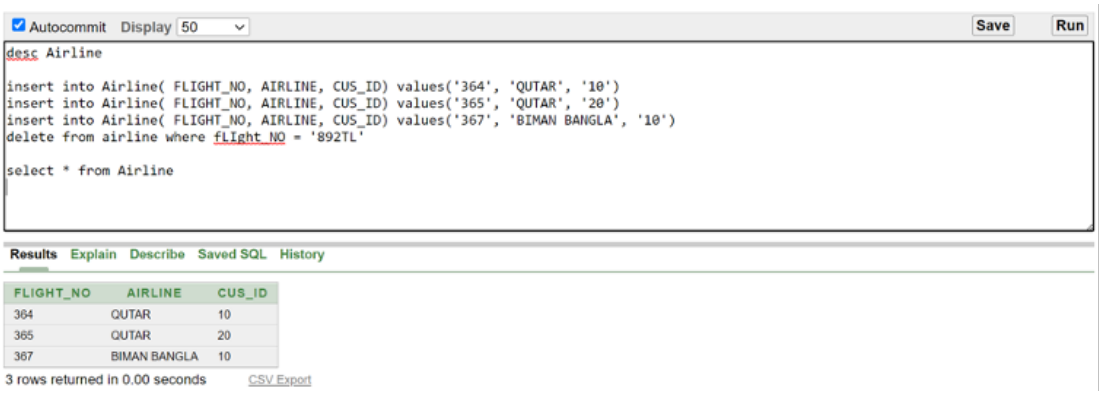
8.8 CUS_Con

DESC cus_con; INSERT INTO cus_con(CUS_ID, PHONE_NO) VALUES ('10', multivalue_type('018********', '019********')); INSERT INTO cus_con(CUS_ID, PHONE_NO) VALUES ('20', multivalue_type('01811******', '01822******')); INSERT INTO cus_con(CUS_ID, PHONE_NO) VALUES ('30', multivalue_type('018123*****', '015678*****', '016********')); SELECT CUS_ID, COLUMN_VALUE AS PHONE_NO FROM cus_con , TABLE(cus_con.PHONE_NO);



8.9 Airline

desc Airline insert into Airline(FLIGHT_NO, AIRLINE, CUS_ID) values('364', 'QUTAR', '10') insert into Airline(FLIGHT_NO, AIRLINE, CUS_ID) values('365', 'QUTAR', '20') insert into Airline(FLIGHT_NO, AIRLINE, CUS_ID) values('367', 'BIMAN BANGLA', '10') delete from airline where fLIght_NO = '892TL' select * from Airline

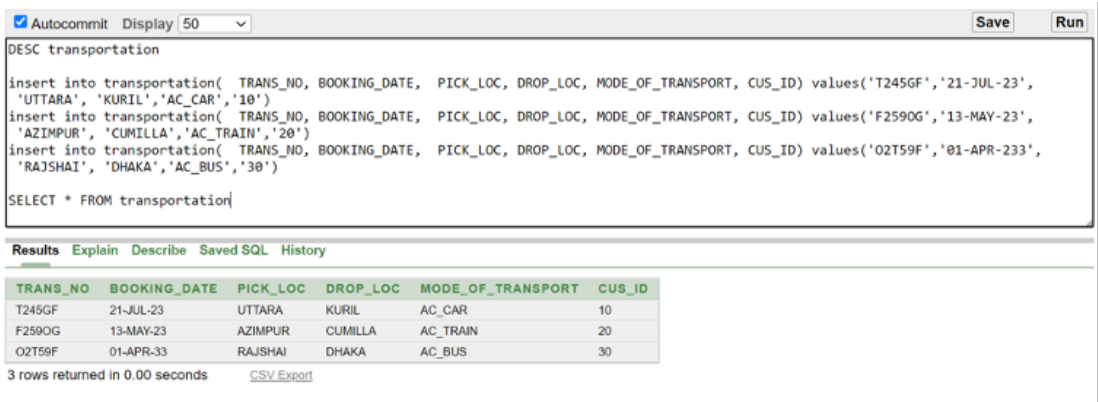


8.10 Airline_Info

desc Airline_Info insert into Airline_Info(FLIGHT_NO, DEP_COUNTRY, ARR_COUNTRY, DEP_TIME, ARR_TIME) values('892TL','BANGLADESH','USA','26-NOV-22','28-NOV-22') insert into Airline_Info(FLIGHT_NO, DEP_COUNTRY, ARR_COUNTRY, DEP_TIME, ARR_TIME) values('367FC','USA','UK','03-MAY-22','04-MAY-22') select * from Airline_Info

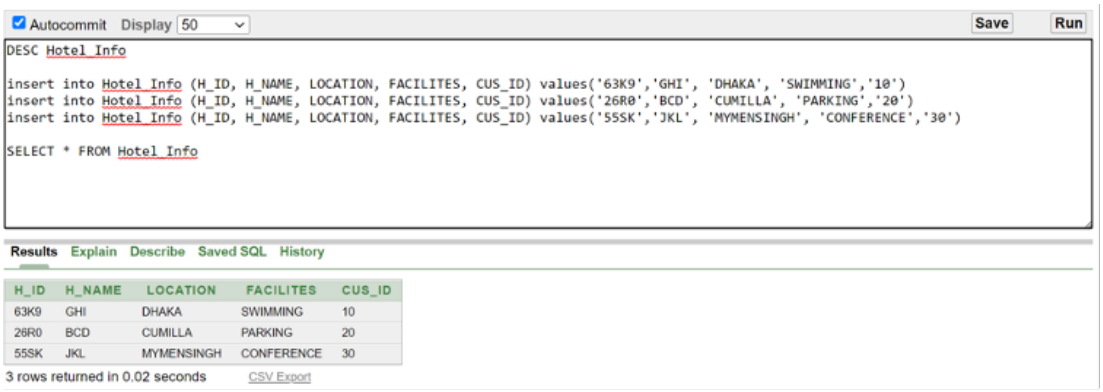
8.11 Transportation

DESC transportation insert into transportation(TRANS_NO, BOOKING_DATE, PICK_LOC, DROP_LOC, MODE_OF_TRANSPORT, CUS_ID) values('T245GF','21-JUL-23', 'UTTARA', 'KURIL','AC_CAR','10') insert into transportation(TRANS_NO, BOOKING_DATE, PICK_LOC, DROP_LOC, MODE_OF_TRANSPORT, CUS_ID) values('F259OG','13- MAY-23', 'AZIMPUR', 'CUMILLA','AC_TRAIN','20') insert into transportation(TRANS_NO, BOOKING_DATE, PICK_LOC, DROP_LOC, MODE_OF_TRANSPORT, CUS_ID) values('O2T59F','01-APR-233','RAJSHAI', 'DHAKA','AC_BUS','30') SELECT * FROM transportation



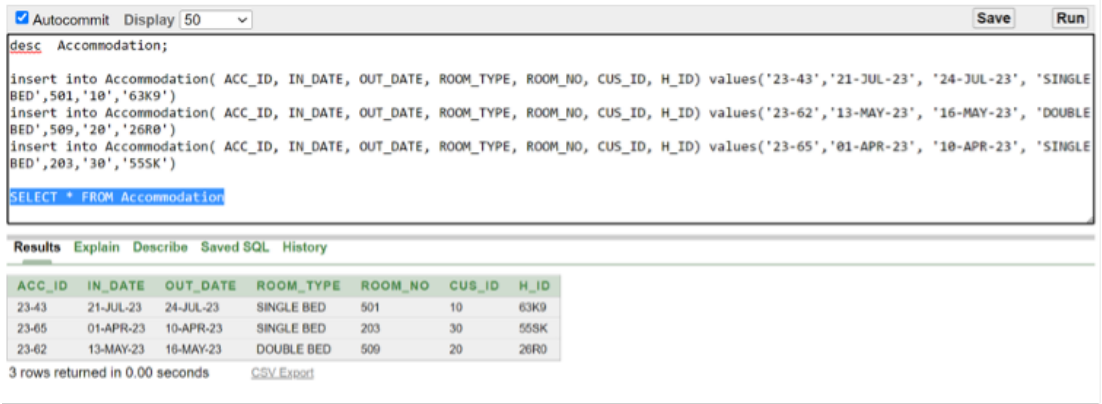
8.12 Hotel_Info

DESC Hotel_Info insert into Hotel_Info (H_ID, H_NAME, LOCATION, FACILITES, CUS_ID) values('63K9','GHI', 'DHAKA', 'SWIMMING','10') insert into Hotel_Info (H_ID, H_NAME, LOCATION, FACILITES, CUS_ID) values('26R0','BCD', 'CUMILLA', 'PARKING','20') insert into Hotel_Info (H_ID, H_NAME, LOCATION, FACILITES, CUS_ID) values('55SK','JKL', 'MYMENSINGH', 'CONFERENCE','30') SELECT * FROM Hotel_Info



8.13 Accommodation

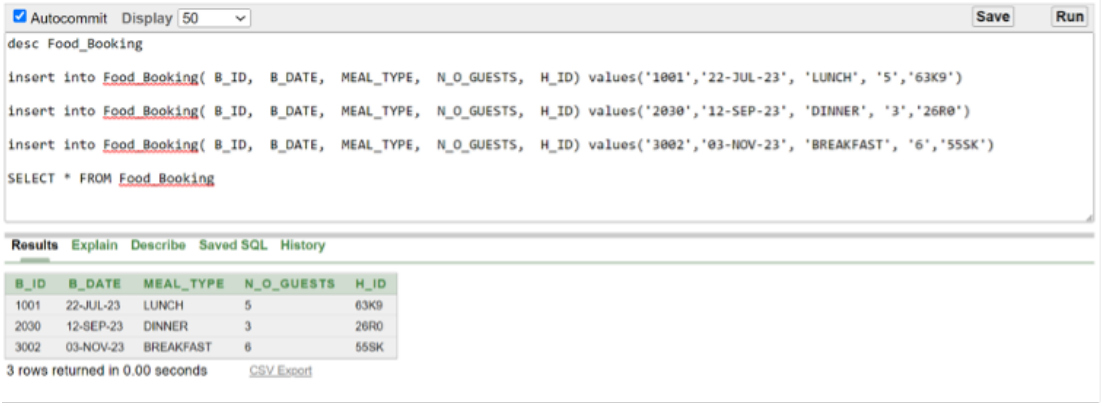
desc Accommodation; insert into Accommodation(ACC_ID, IN_DATE, OUT_DATE, ROOM_TYPE, ROOM_NO, CUS_ID, H_ID) values('23-43','21-JUL-23', '24- JUL-23', 'SINGLE BED',501,'10','63K9') insert into Accommodation(ACC_ID, IN_DATE, OUT_DATE, ROOM_TYPE, ROOM_NO, CUS_ID, H_ID) values('23-62','13-MAY-23', '16- MAY-23', 'DOUBLE BED',509,'20','26R0') insert into Accommodation(ACC_ID, IN_DATE, OUT_DATE, ROOM_TYPE, ROOM_NO, CUS_ID, H_ID) values('23-65','01-APR-23', '10- APR-23', 'SINGLE BED',203,'30','55SK') SELECT * FROM Accommodation



8.14 Food_Booking

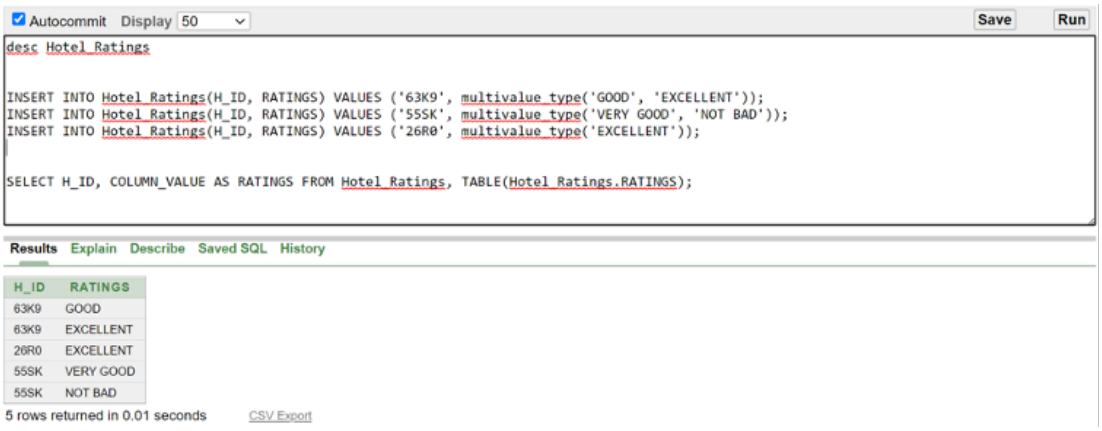
desc Food_Booking insert into Food_Booking(B_ID, B_DATE, MEAL_TYPE, N_O_GUESTS, H_ID) values('1001','22-JUL-23', 'LUNCH', '5','63K9') insert into Food_Booking(B_ID, B_DATE, MEAL_TYPE, N_O_GUESTS, H_ID) values('2030','12-SEP-23', 'DINNER', '3','26R0') insert into Food_Booking(B_ID, B_DATE, MEAL_TYPE,

N_O_GUESTS, H_ID) values('3002','03-NOV-23', 'BREAKFAST', '6','55SK')
SELECT * FROM Food_Booking



8.15 Hotel_Ratings

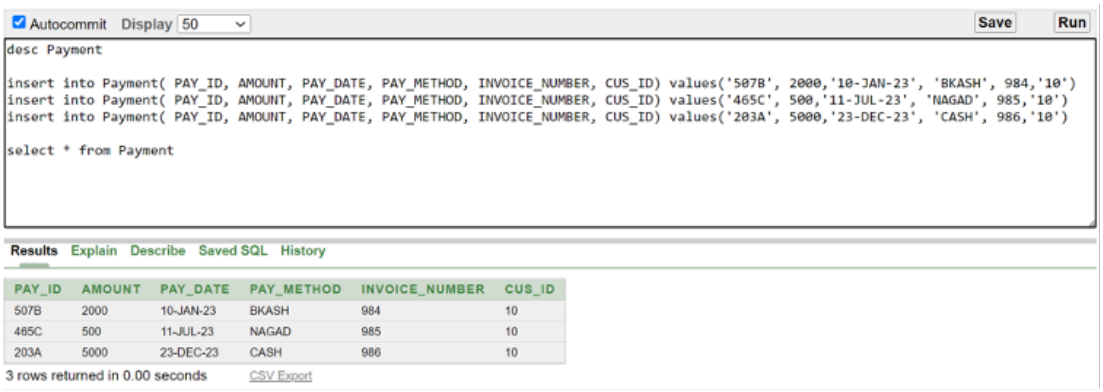
desc Hotel_Ratings INSERT INTO Hotel_Ratings(H_ID, RATINGS) VALUES ('63K9', multivalue_type('GOOD', 'EXCELLENT')); INSERT INTO Hotel_Ratings(H_ID, RATINGS) VALUES ('55SK', multivalue_type('VERY GOOD', 'NOT BAD')); INSERT INTO Hotel_Ratings(H_ID, RATINGS) VALUES ('26R0', multivalue_type('EXCELLENT')); SELECT H_ID, COLUMN_VALUE AS RATINGS FROM Hotel_Ratings, TABLE(Hotel_Ratings.RATINGS);



8.16 Payment

desc Payment insert into Payment(PAY_ID, AMOUNT, PAY_DATE, PAY_METHOD, INVOICE_NUMBER, CUS_ID) values('507B', 2000,'10-JAN-23', 'BKASH', 984,'10')

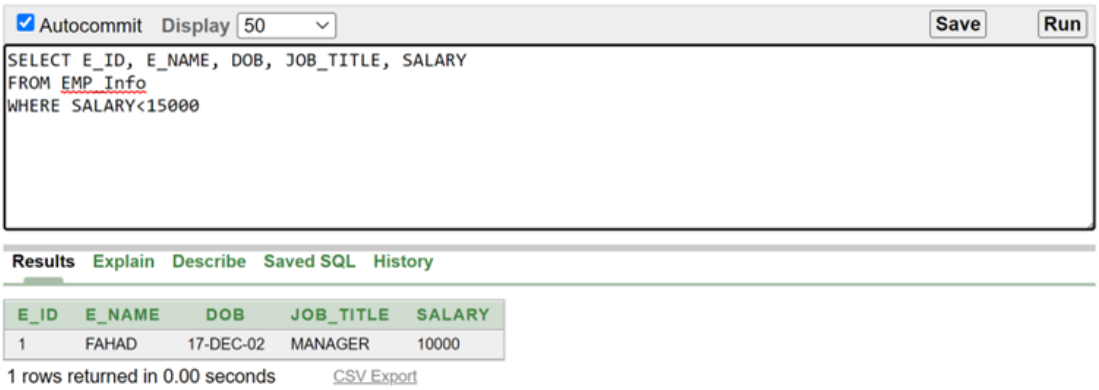
insert into Payment(PAY_ID, AMOUNT, PAY_DATE, PAY_METHOD, INVOICE_NUMBER, CUS_ID) values('465C', 500,'11-JUL-23', 'NAGAD', 985,'10')
insert into Payment(PAY_ID, AMOUNT, PAY_DATE, PAY_METHOD, INVOICE_NUMBER, CUS_ID) values('203A', 5000,'23-DEC-23', 'CASH', 986,'10')
select * from Payment



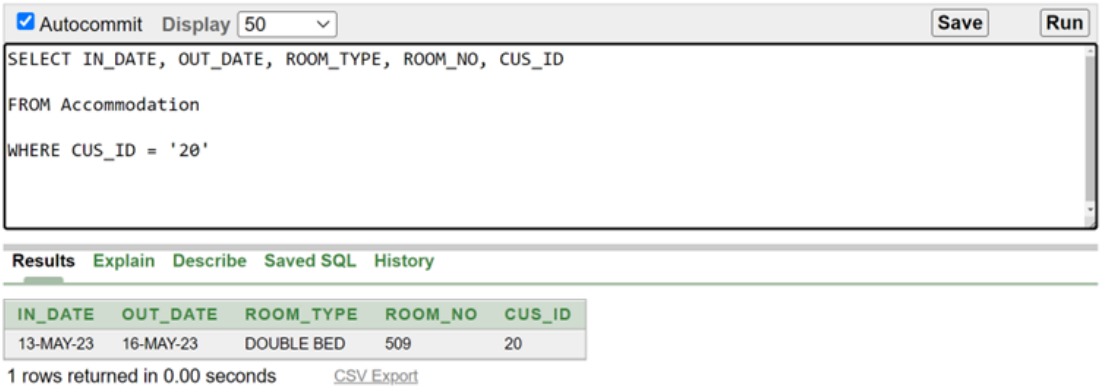
9 QUERY WRITING

9.1 Single Row Query

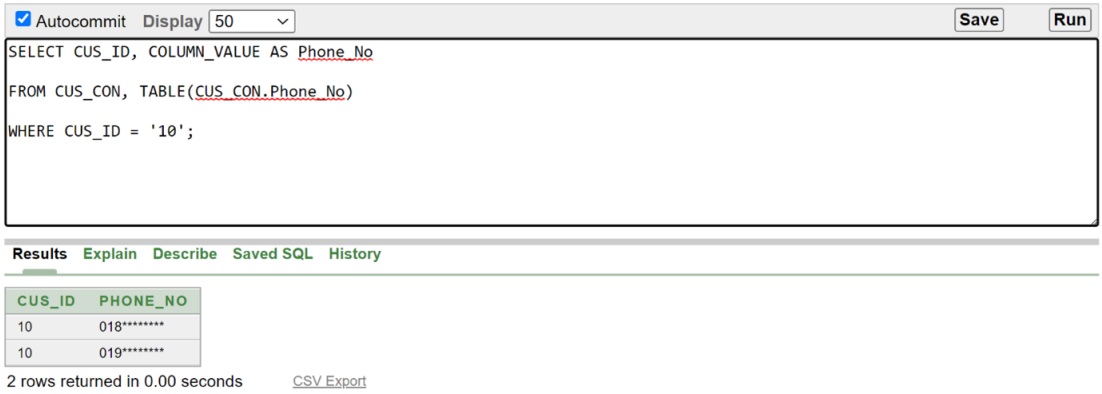
Q_01: Show employee ID, name, date of birth, job title and salary who earn less than 15000. Query: SELECT E_ID, E_NAME, DOB, JOB_TITLE, SALARY FROM EMP_Info WHERE SALARY¡15000



Q_02: Show check-in, check-out time, room type and room number of the customer who's ID is 20. Query: SELECT IN_DATE, OUT_DATE, ROOM_TYPE, ROOM_NO, CUS_ID FROM Accommodation WHERE CUS_ID = '20'



Q_03: Show customer phone numbers who's ID is 10. Query: SELECT CUS_ID, COLUMN_VALUE AS Phone_No FROM CUS_CON, TABLE(CUS_CON.Phone_No) WHERE CUS_ID = '10';

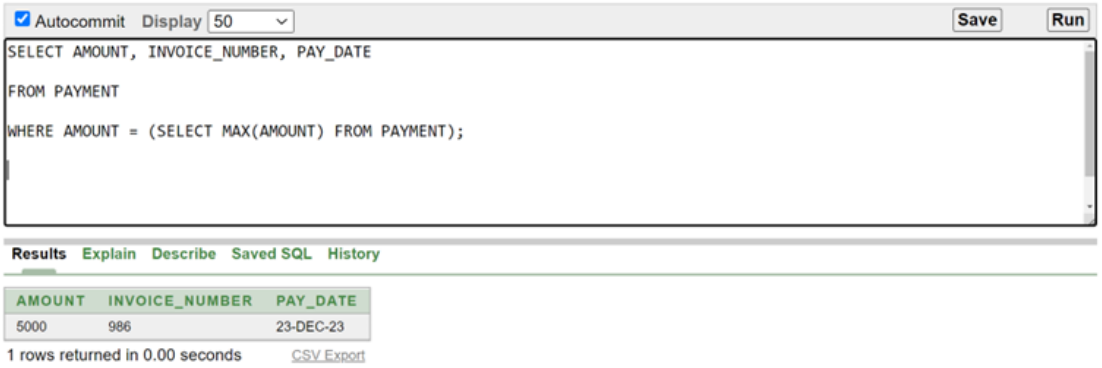


9.2 Multiple Row Query

$\mathbf{Q}_0 4$: *Showinvoicenumberandpaymentdatewherepaymentismaximum.*

Query:

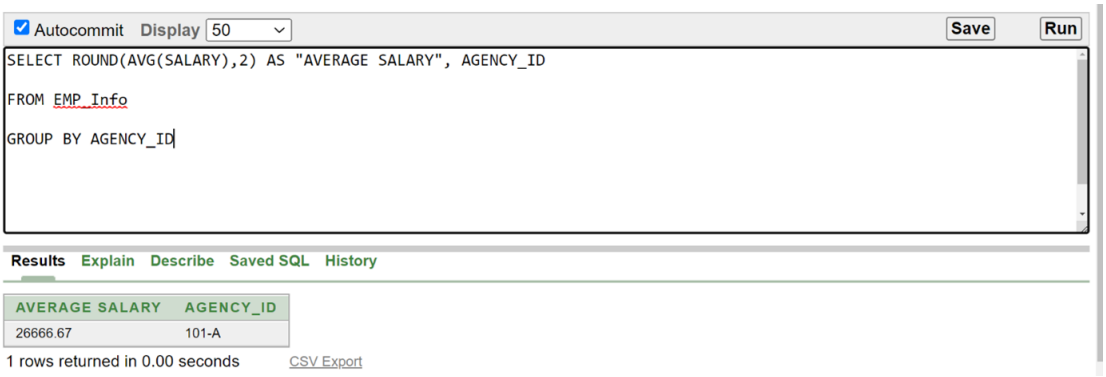
SELECT AMOUNT, INVOICE_NUMBER, PAY_DATE FROM PAYMENT WHERE AMOUNT = (SELECT MAX(AMOUNT) FROM PAYMENT);



Q_05: Show the average salary based on agency company.

Query:

SELECT ROUND(AVG(SALARY),2) AS "AVERAGE SALARY", AGENCY_ID FROM EMP_Info GROUP BY AGENCY_ID

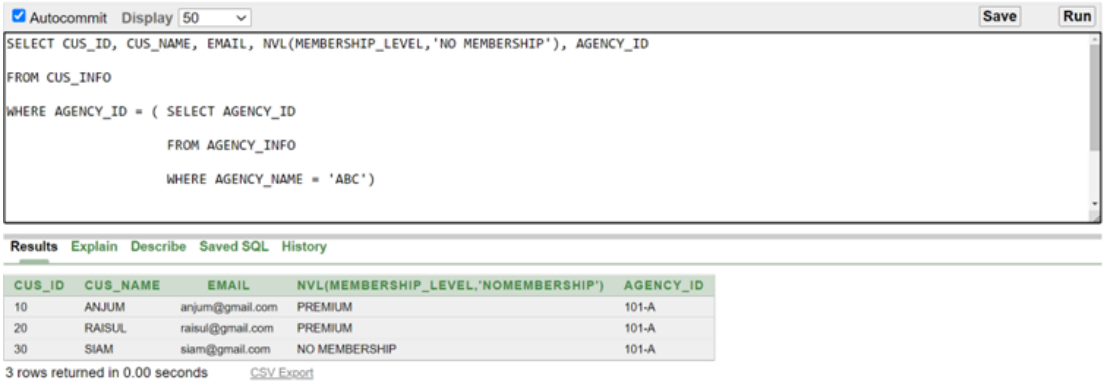


9.3 SUB QUERY

Q_06: Show all the customer's information from ABC agency. If any customer does not have a membership, display their membership status as no membership.

Query:

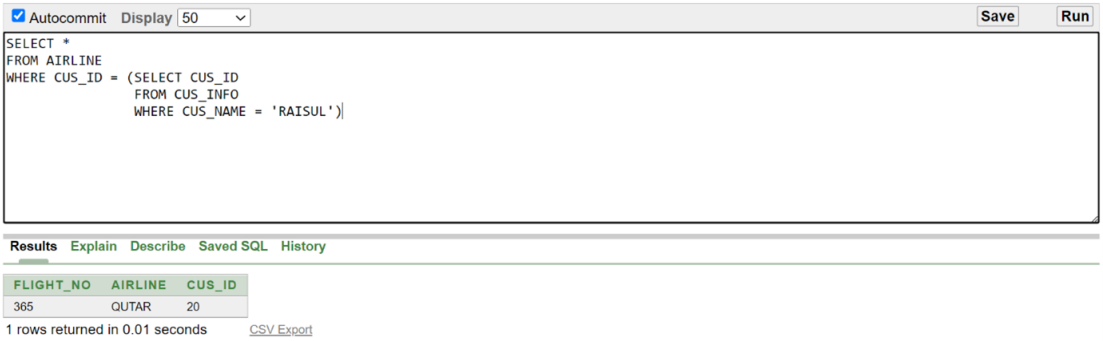
SELECT CUS_ID, CUS_NAME, EMAIL, NVL(MEMBERSHIP_LEVEL,'NO MEMBERSHIP'), AGENCY_ID FROM CUS_INFO WHERE AGENCY_ID = (SELECT AGENCY_ID FROM AGENCY_INFO WHERE AGENCY_NAME = 'ABC')



Q_07: Show airline info for Raisul.

Query:

SELECT * FROM AIRLINE WHERE CUS_ID = (SELECT CUS_ID FROM CUS_INFO WHERE CUS_NAME = 'RAISUL')

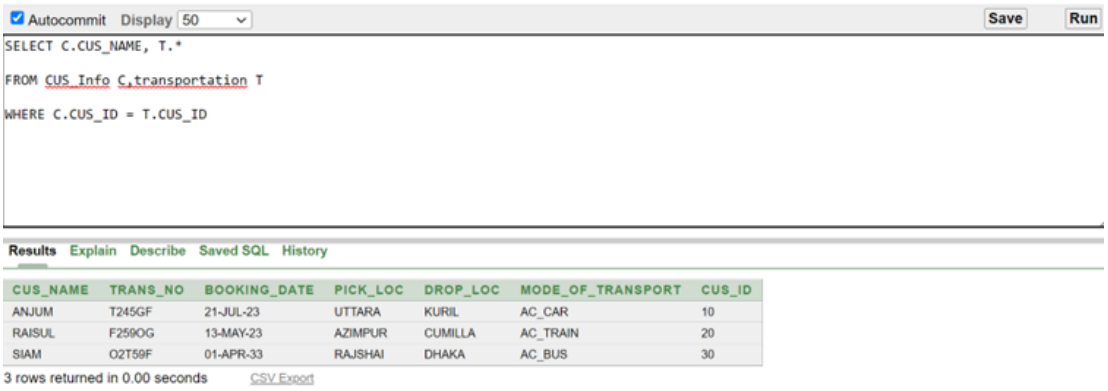


9.4 JOINING QUERY

Q_08: Show transportation details for all customer.

Query:

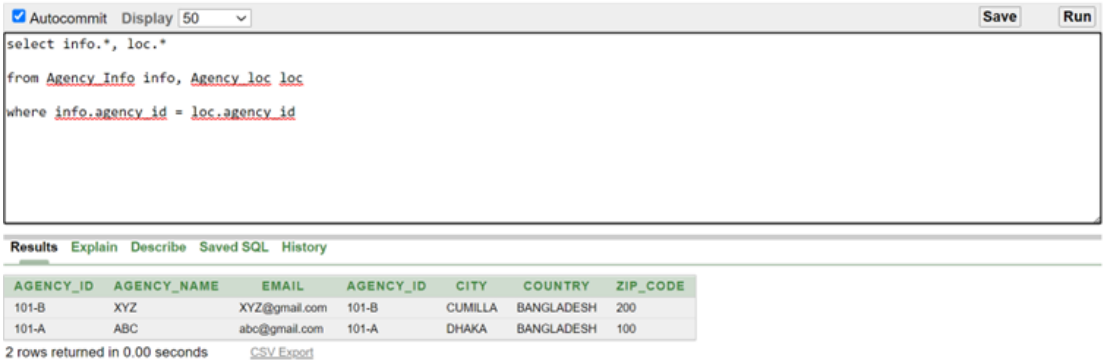
SELECT C.CUS_NAME, T.* FROM CUS_Info C, transportation T WHERE C.CUS_ID = T.CUS_ID



Q_09: Show all the agency and their information which exists on this database.

Query:

select info.*, loc.* from Agency_Info info, Agency_loc loc where info.agency_id = loc.agency_id

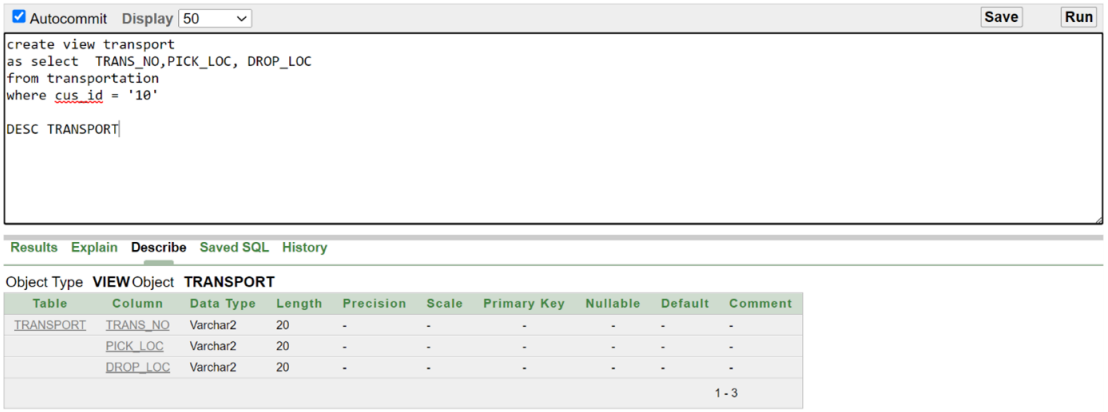


9.5 VIEW

Q_10: Create a view called transport based on the transportation no., pick-up location and drop location for customer ID 10.

Query:

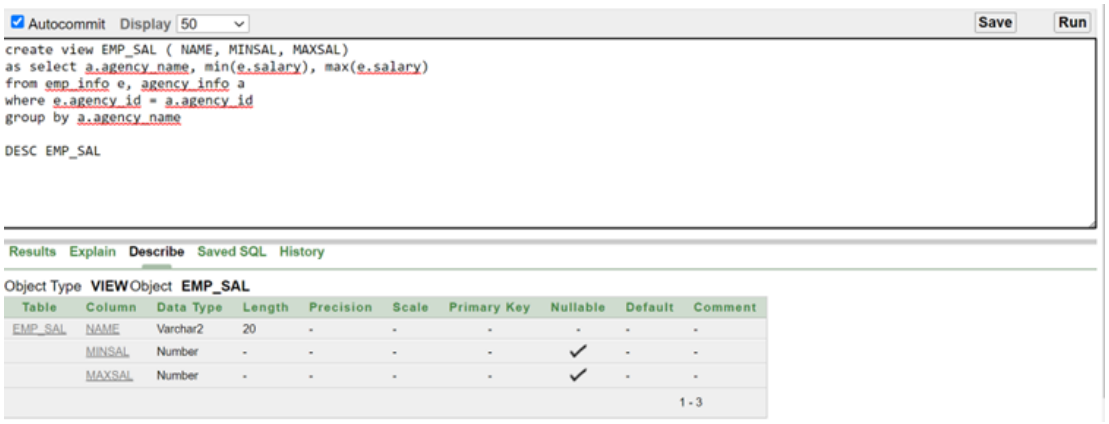
create view transport as select TRANS_NO,PICK_LOC, DROP_LOC from transportation where cus_id = '10' DESC TRANSPORT



Q_11: Create a view named EMP$_SALthatcontainsminimumsalaryandmaximumsalaryaccordingtoag

Query:

create view EMP_SAL (NAME, MINSAL, MAXSAL) as select a.agency_name, min(e.salary), max(e.salary) from emp_info e, agency_info a where e.agency_id = a.agency_id group by a.agency_name DESC EMP_SAL


Autocommit
Display 50
Save
Run
create view EMP_SAL (NAME, MINSAL, MAXSAL)
as select a.agency_name, min(e.salary), max(e.salary)
from emp_info e, agency_info a
where e.agency_id = a.agency_id
group by a.agency_name
DESC EMP_SAL
Results
Explain
Describe
Saved SQL
History
Object Type VIEW Object EMP_SAL
Table
Column
Data Type
Length
Precision
Scale
Primary Key
Nullable
Default
Comment
EMP_SAL
NAME
Varchar2
20
MINSAL
Number
MAXSAL
Number
1 - 3

10 CONCLUSION

Our project on tourism management system is built so that it can be used as a database schema of any travel management system. We tried to include all types of entities and store their information in the possible easiest way. Through this project, we have put our theoretical knowledge into a practical project that was learnt from this Introduction to Database course. The knowledge we gathered throughout this course and this project hopefully will help to build any projects related to databases we will have in the coming future. We are also very excited to work on this project and willing to add more features as well.