AMERICAN INTERNATIONAL UNIVERSITY–BANGLADESH (AIUB)

FACULTY OF SCIENCE & TECHNOLOGY

Introduction To Database

Summer 2020-2021

Section: K, Group: 1.

Supervised By

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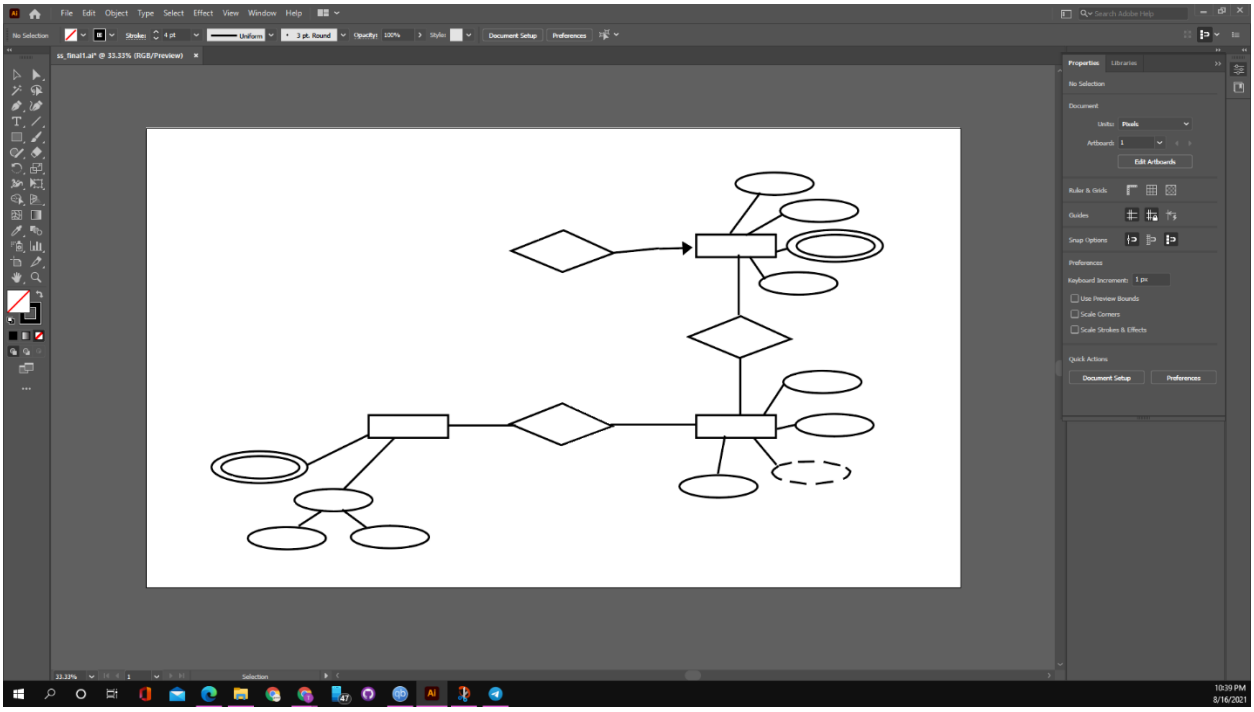
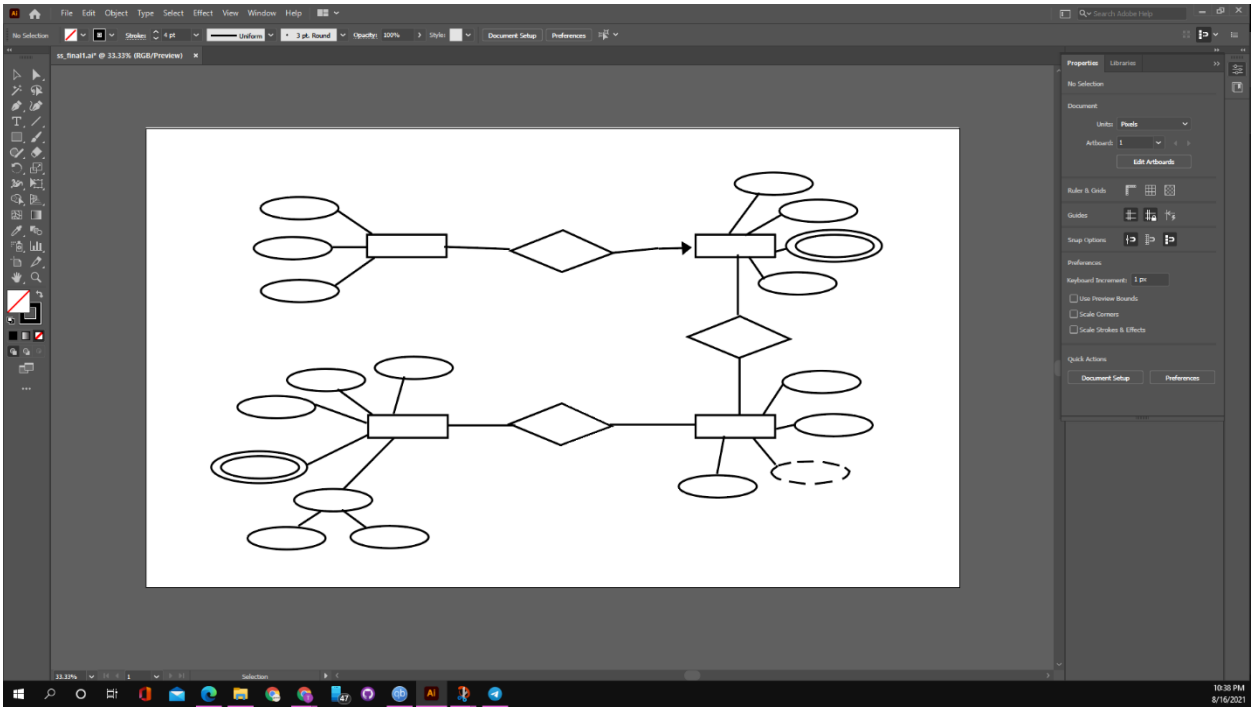
Women's Ride Sharing Management

Women's ride-sharing is the first traveling management in Bangladesh for women. Women's ride-sharing has a strong management for maintaining the whole system. A Admin has A_ID, A_name, A_phone. In Women's ride-sharing management system there are many drivers who controlled by the Admin. The attributes of drivers include D_ID, D_name, D_phone, D_mail, D_age. Admin manages all drivers. The location to be traveled, starting time, and end time shall be provided in women's ride-sharing. Women can choose trips from online by visiting Women's ride-sharing app. A Trip has T_ID, T_location, Start_Time,End_time. One trip can be choosen by one women. Women has some attributes include W_id, W_name, W_age, Date_of_Birth,Address.A women's address is composed of street_name, and city. One admin can manage many drivers.

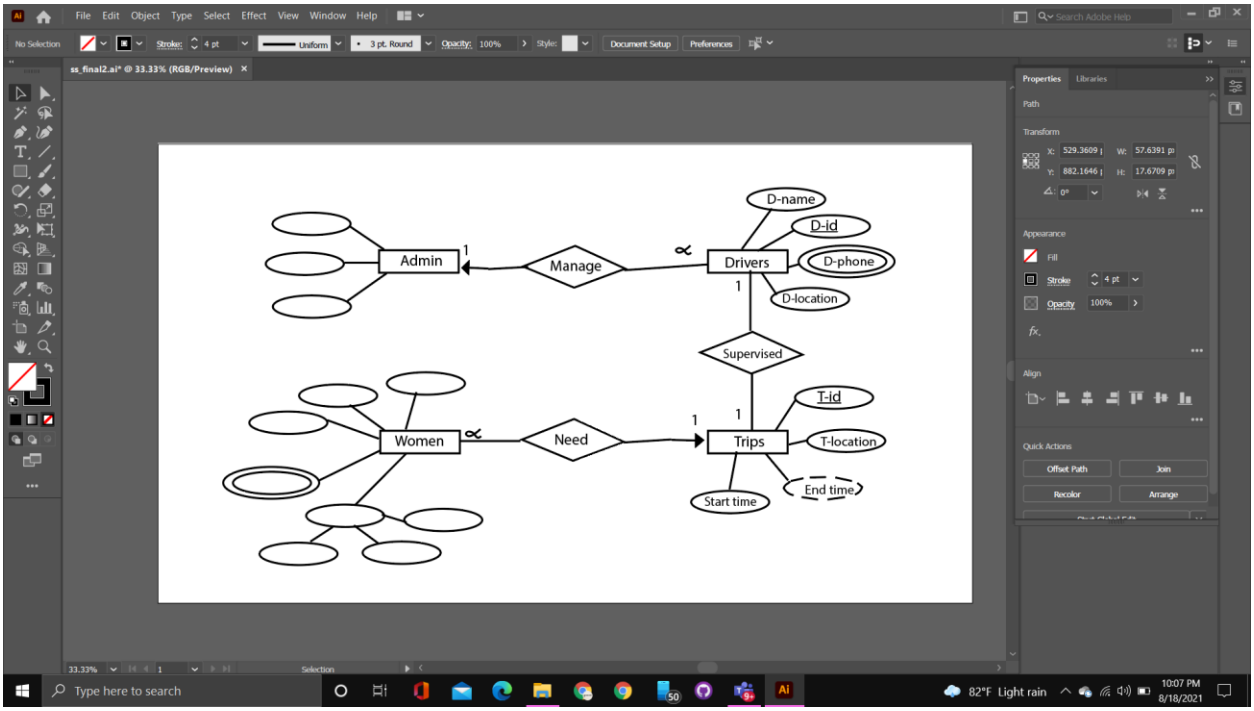
ER- Diagram

Initial :

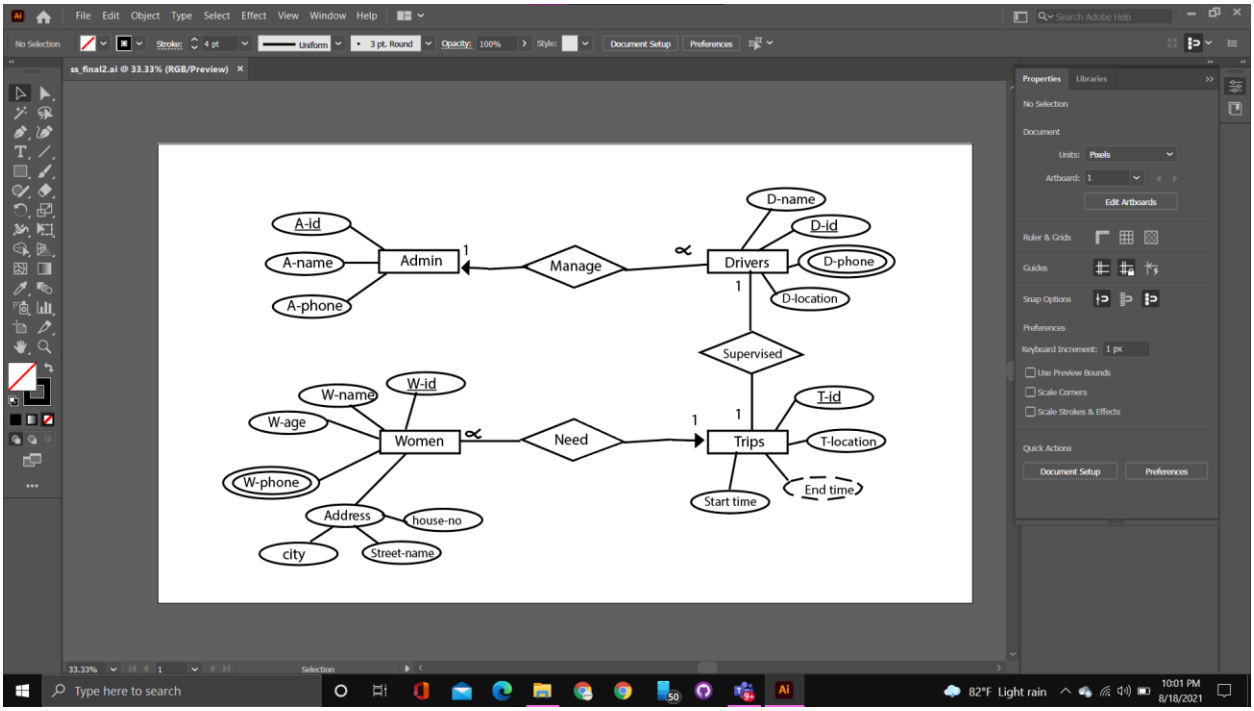




Middle:


Admin
1
Manage
∝
Drivers
D-name
D-id
D-phone
D-location
1
Supervised
1
1
Trips
T-id
T-location
End time
Start time
Women
∝
Need

Final:



Normalization:

Manage

(A_ID, A_name, A_phone,D_ID, D_name, D_phone, D_location)

1NF:

A_ID, D_ID, D_ID

D_ID is multivalued

2NF:

A_ID, A_name, A_phone

D_ID, D_name, D_phone, D_location

3NF:

A_ID, A_name, A_phone

D_ID, D_name, D_phone, D_location

No Transitive dependency.

Table from Manage:

1. A_ID, A_name, A_phone
2. D_ID, D_name, D_phone, D_location, A_ID
3. D_ID, D_phone

Supervised

D-ID, D_name, D_phone, D_location, T_ID, T_location, Start_time, End_time.

1NF

D_ID, T_ID, D_phone

D_phone is multivalued

2NF

D-ID, D_name, D_phone, D_location,

T_ID, T_location, Start_time, End_time.

3NF

D-ID, D_name, D_phone, D_location,

T_ID, T_location, Start_time, End_time.

No Transitive Dependency.

Table from Supervised

1. D-ID, D_name, D_phone, D_location, T_ID,
2. T_ID, T_location, Start_time, End_time.
3. D_ID, D_phone

Need

T_ID, T_location, Start_time, End_time.

W_ID, W_name, W_age, W_phone, city, Street_name.

1NF

T_ID, W_ID, W_phone

W_phone is multivalued

2NF

T_ID, T_location, Start_time, End_time.

W_ID, W_name, W_age, W_phone, city, Street_name.

3NF

T_ID, T_location, Start_time, End_time.

W_ID, W_name, W_age, W_phone, H_no, city, Street_name.

Table from Need

1. T_ID, T_location, Start_time, End_time.
2. W_ID, W_name, W_age, W_phone, H_no, T_ID

3. H_no, city, Street_name.

4. W_ID, W_phone

Final Table

1. A_ID, A_name, A_phone.

2. D-ID, D_name, D_phone, D_location, A_ID

3. D-ID, D_phone,

4. D-ID, D_name, D_phone, D_location, T_ID,

5. T_ID, T_location, Start_time, End_time.

6. W_ID, W_name, W_age, W_phone, H_no, T_ID

7. H_no, city, Street_name.

8. W_ID, W_phone

TABLE CREATION & DATA INSERTION:

Table Admin:

create table admin1(A_ID number(12) primary key, A_Name varchar(32), A_phone number(12));

insert into admin1(A_ID, A_Name, A_phone) values (001, 'Amy', 01848);

insert into admin1(A_ID, A_Name, A_phone) values (002, 'Bilal', 04862);

insert into admin1(A_ID, A_Name, A_phone) values (003, 'Rahman', 07800);

select *

from admin1;

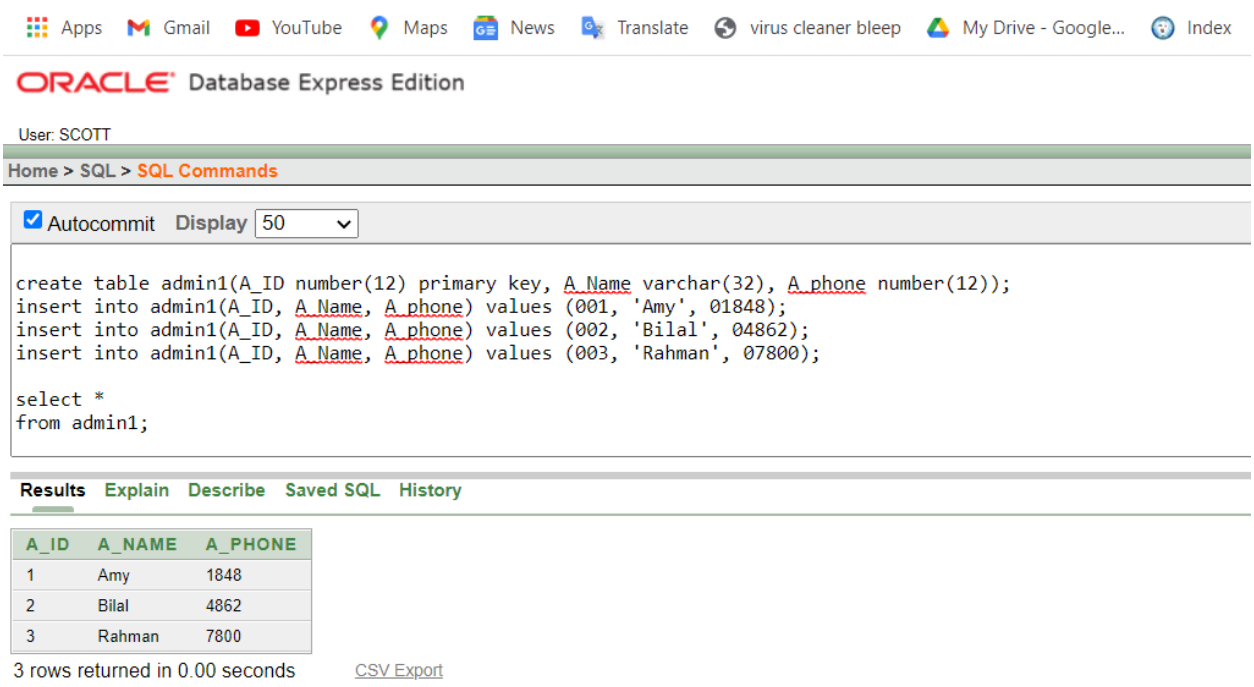


Table DriverD:

```
create table driverD(D_ID number(12) primary key, D_Name varchar(32), D_Location varchar2(32), D_phone number(12), AID number(12), foreign key(AID) references admin1(A_ID));

insert into driverD(D_ID, D_Name, D_Location, D_phone, AID) values (101, 'Karim', 'Uttara', 033881, 002);

insert into driverD(D_ID, D_Name, D_Location, D_phone, AID) values (102, 'Rahim', 'Mirpur', 056781, 003);

insert into driverD(D_ID, D_Name, D_Location, D_phone, AID) values (103, 'Shojol', 'Farmgate', 800024, 001);


select *

From driverD;
```

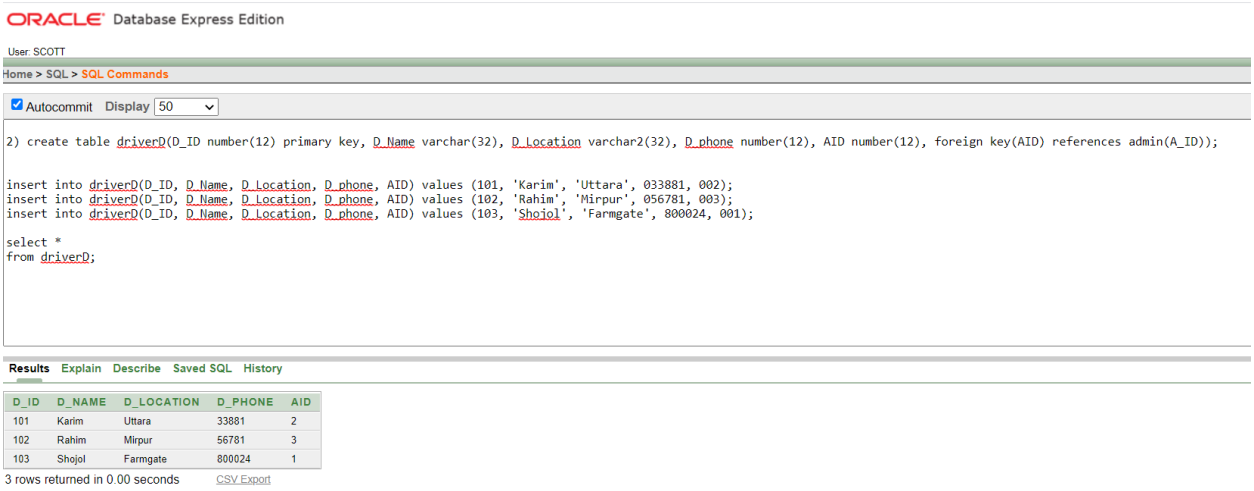


Table DriverP:

create table driverP(DID number(12), foreign key(DID) references driver(D_ID), D_phone number(12));

insert into driverP(DID, D_phone) values (101, 033881);

insert into driverP(DID, D_phone) values (101, 064281);

insert into driverP(DID, D_phone) values (101, 022222);

insert into driverP(DID, D_phone) values (102, 056781);

insert into driverP(DID, D_phone) values (102, 220012);

insert into driverP(DID, D_phone) values (103, 800024);

insert into driverP(DID, D_phone) values (103, 588662);

select*

From driverP;

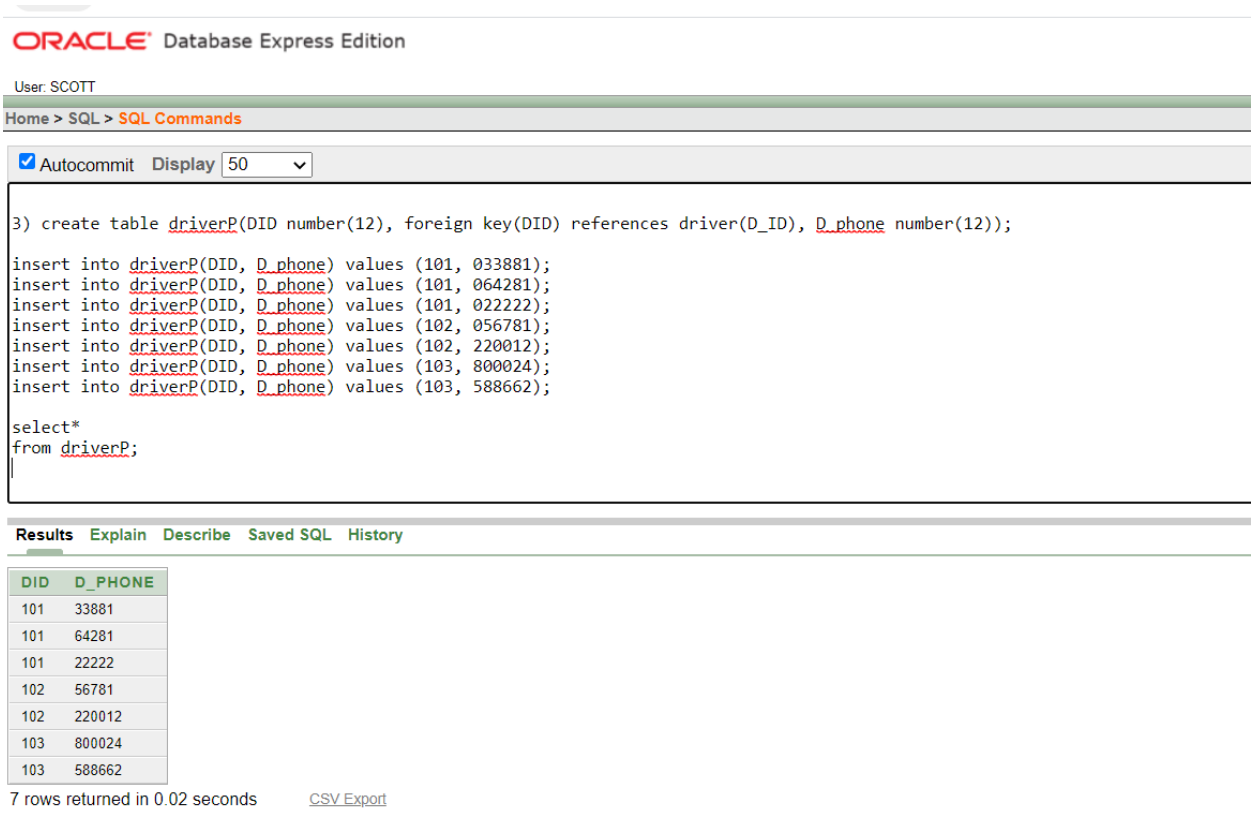


Table D1:

create table d1(D_ID number(12) primary key, D_Name varchar(32), D_Location varchar2(32), D_phone number(12), TID number(12), foreign key(TID) references trip(T_ID));

insert into d1(D_ID, D_Name, D_Location, D_phone, TID) values (101, 'Karim', 'Uttara', 1122, 201);

insert into d1(D_ID, D_Name, D_Location, D_phone, TID) values (102, 'Rahim', 'Mirpur', 2266, 203);

insert into d1(D_ID, D_Name, D_Location, D_phone, TID) values (103, 'Shojol', 'Farmgate', 3338, 202);

select *

From d1;

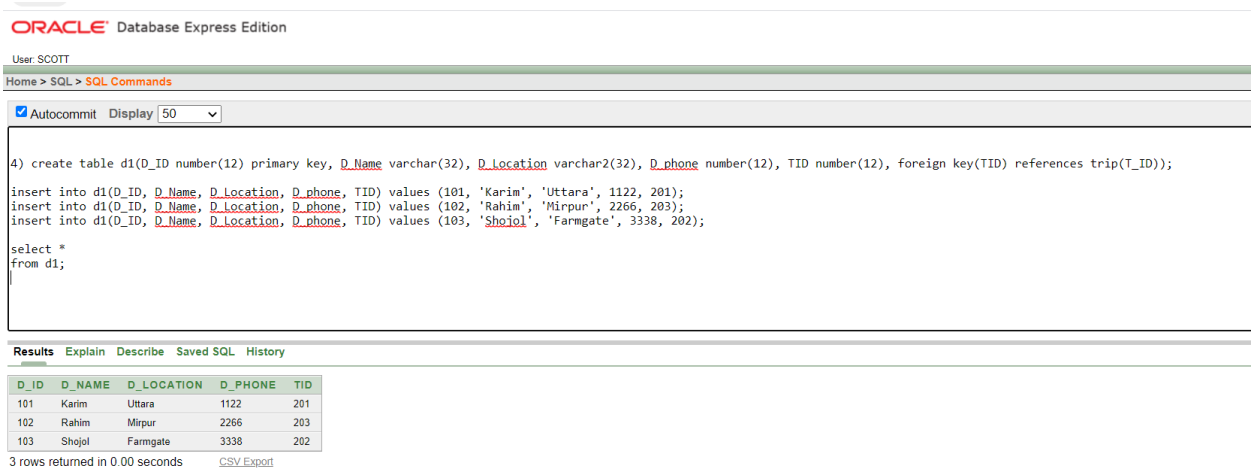


Table TripT:

create table tripT(T_ID number(12) primary key, T_Location varchar2(32), Start_Time float(12), End_Time float(12));

insert into tripT(T_ID, T_Location, Start_Time, End_Time) values (201, 'Bashundhara', 14.00, 14.30);

insert into tripT(T_ID, T_Location, Start_Time, End_Time) values (202, 'Baridhara', 10.00, 12.00);

insert into tripT(T_ID, T_Location, Start_Time, End_Time) values (203, 'Gulshan', 8.00, 10.00);

select *

from tripT;

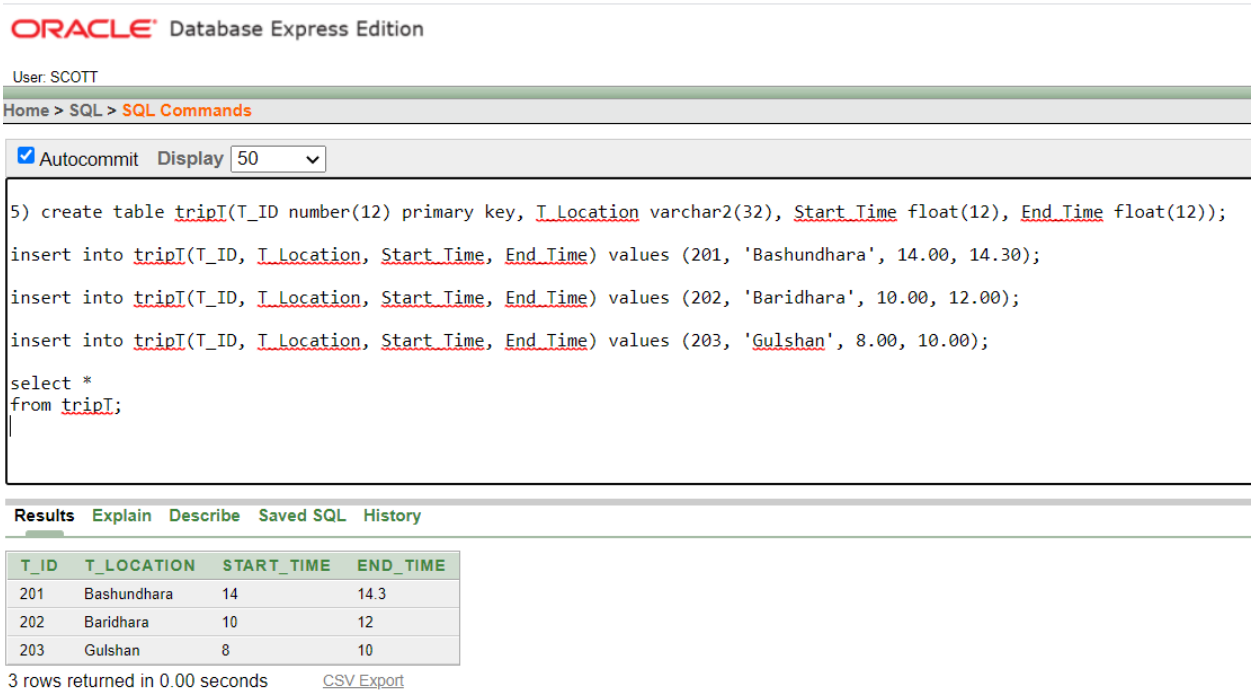


Table Women:

```
create table women(W_ID number(12) primary key, W_Name varchar(32), W_age number(10), H_No number(10), W_phone number(12), TID number(12), foreign key(TID) references trip(T_ID));

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (301, 'Jade', 24, 118, 2001, 202);

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (302, 'Perrie', 28, 118, 3887, 202);

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (303, 'Anne', 30, 118, 6778, 202);

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (304, 'Ariana', 35, 102, 8223, 201);

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (305, 'Alisha', 42, 116, 1111, 203);

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (306, 'Arya', 12, 116, 2323, 203);

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (307, 'Emma', 20, 142, 2666, 201);


select*

From women;
```

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```
6) create table women(W_ID number(12) primary key, W_Name varchar(32), W_age number(10), H_No number(10), W_phone number(12), TID number(12), foreign key(TID) references trip(T_ID));

insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (301, 'Jade', 24, 118, 2001, 202);
insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (302, 'Perrie', 28, 118, 3887, 202);
insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (303, 'Anne', 30, 118, 6778, 202);
insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (304, 'Ariana', 35, 102, 8223, 201);
insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (305, 'Alisha', 42, 116, 1111, 203);
insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (306, 'Arya', 12, 116, 2323, 203);
insert into women(W_ID, W_Name, W_age, H_No, W_phone, TID) values (307, 'Emma', 20, 142, 2666, 201);

select *
from women;
```

Results Explain Describe Saved SQL History

W_ID	W_NAME	W_AGE	H_NO	W_PHONE	TID
301	Jade	24	118	2001	202
302	Perrie	28	118	3887	202
303	Anne	30	118	6778	202
304	Ariana	35	102	8223	201
305	Alisha	42	116	1111	203
306	Arya	12	116	2323	203
307	Emma	20	142	2666	201

7 rows returned in 0.00 seconds CSV Export

Table Houseno:

create table houseno (H_no number(12) primary key, city varchar(32), street_name varchar2(32));

insert into houseno(H_no, city, street_name) values (102, 'Dhaka', 'parkvilla');

insert into houseno(H_no, city, street_name) values (116, 'Dhaka', 'lakeside');

insert into houseno(H_no, city, street_name) values (118, 'Dhaka', 'president road');

insert into houseno(H_no, city, street_name) values (142, 'Dhaka', 'airport road');

select*

from houseno;

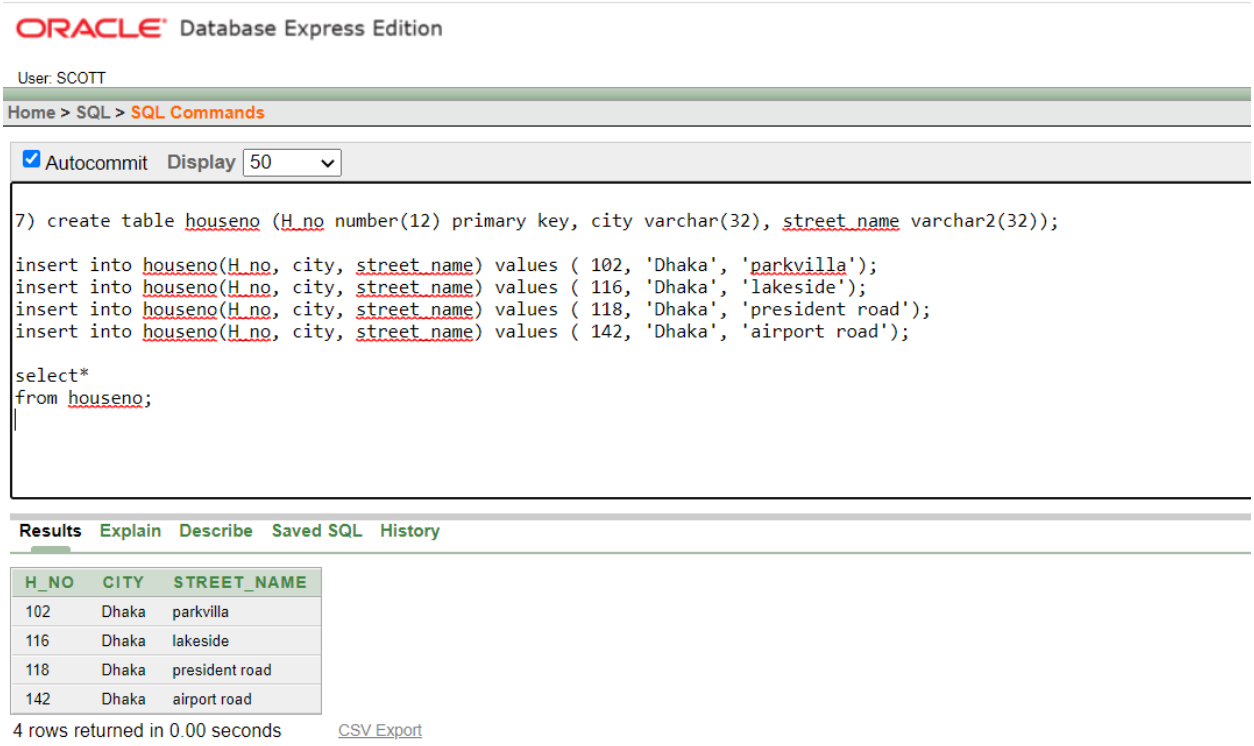

Table WInfo:

create table WInfo(WID number(12), foreign key(WID) references women(W_ID), W_phone number(12));

insert into WInfo(WID, W_phone) values (301, 2001);

insert into WInfo(WID, W_phone) values (302, 3887);

insert into WInfo(WID, W_phone) values (302, 5555);

insert into WInfo(WID, W_phone) values (303, 6778);

insert into WInfo(WID, W_phone) values (303, 5888);

insert into WInfo(WID, W_phone) values (303, 1001);

insert into WInfo(WID, W_phone) values (304, 8223);

insert into WInfo(WID, W_phone) values (305, 1111);

insert into WInfo(WID, W_phone) values (306, 2323);

insert into WInfo(WID, W_phone) values (307, 2666);

select*

From WInfo;

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```
8) create table WInfo(WID number(12), foreign key(WID) references women(W_ID), W_phone number(12));


insert into WInfo(WID, W_phone) values (301, 2001);
insert into WInfo(WID, W_phone) values (302, 3887);
insert into WInfo(WID, W_phone) values (302, 5555);
insert into WInfo(WID, W_phone) values (303, 6778);
insert into WInfo(WID, W_phone) values (303, 5888);
insert into WInfo(WID, W_phone) values (303, 1001);
insert into WInfo(WID, W_phone) values (304, 8223);
insert into WInfo(WID, W_phone) values (305, 1111);
insert into WInfo(WID, W_phone) values (306, 2323);
insert into WInfo(WID, W_phone) values (307, 2666);

select*
from WInfo;
```

Results Explain Describe Saved SQL History

WID	W_PHONE
301	2001
302	3887
302	5555
303	6778
303	5888
303	1001
304	8223
305	1111
306	2323
307	2666

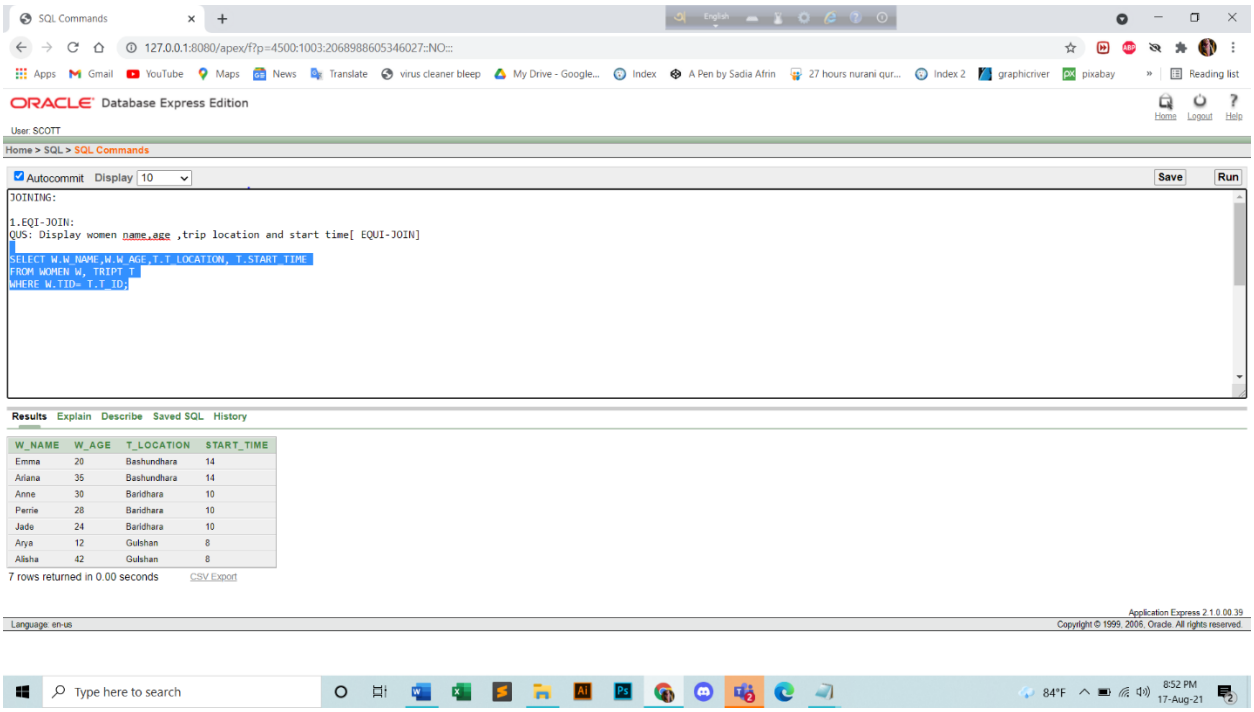
10 rows returned in 0.00 seconds CSV Export

Joining (1 Equijoin, 1 Outer join, 1 self- join):

EQI JOIN:

QUS: Display women name,age ,trip location and start time[EQUI-JOIN]

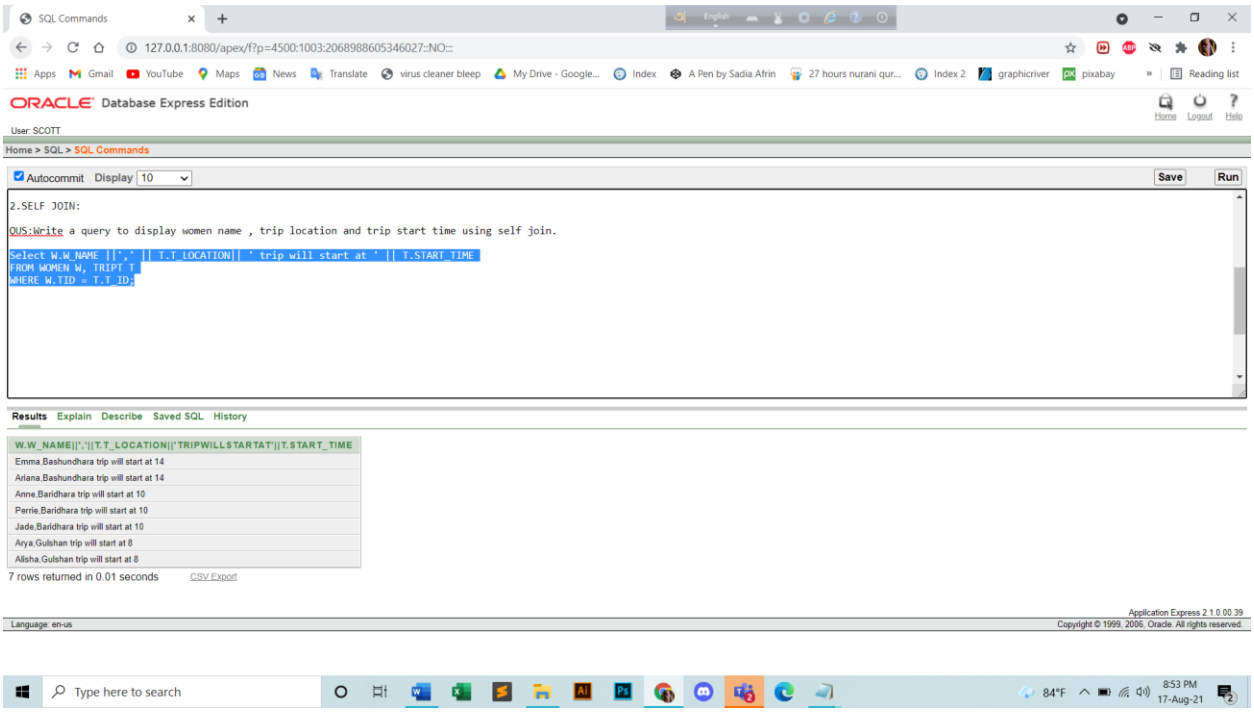
```
SELECT W.W_NAME,W.W_AGE,T.T_LOCATION, T.START_TIME
FROM WOMEN W, TRIPT T
WHERE W.TID= T.T_ID;
```



SELF JOIN:

QUS: Write a query to display women name , trip location and trip start time using self join.

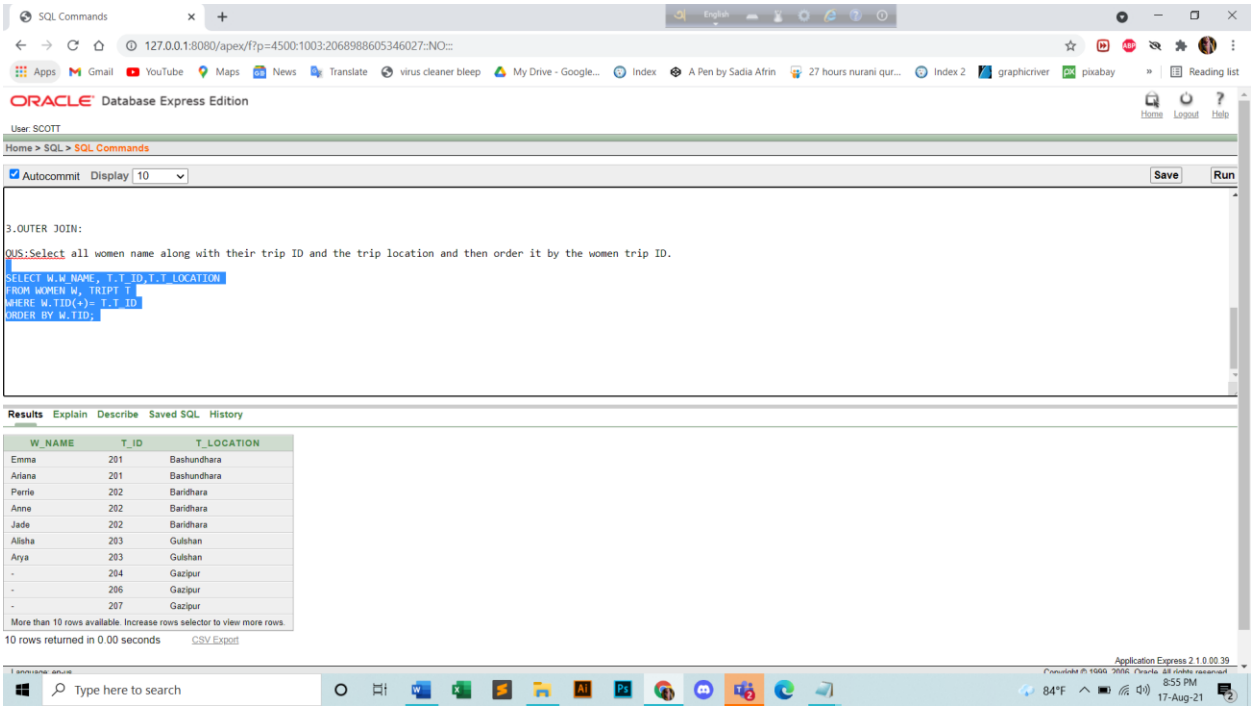
```
Select W.W_NAME ||' ' || T.T_LOCATION|| ' trip will start at ' || T.START_TIME
FROM WOMEN W, TRIPT T
WHERE W.TID = T.T_ID;
```



OUTER JOIN:

QUS: Select all women name along with their trip ID and the trip location and then order it by the women trip ID.

```
SELECT W.W_NAME, T.T_ID,T.T_LOCATION
FROM WOMEN W, TRIPT T
WHERE W.TID(+)= T.T_ID
ORDER BY W.TID;
```

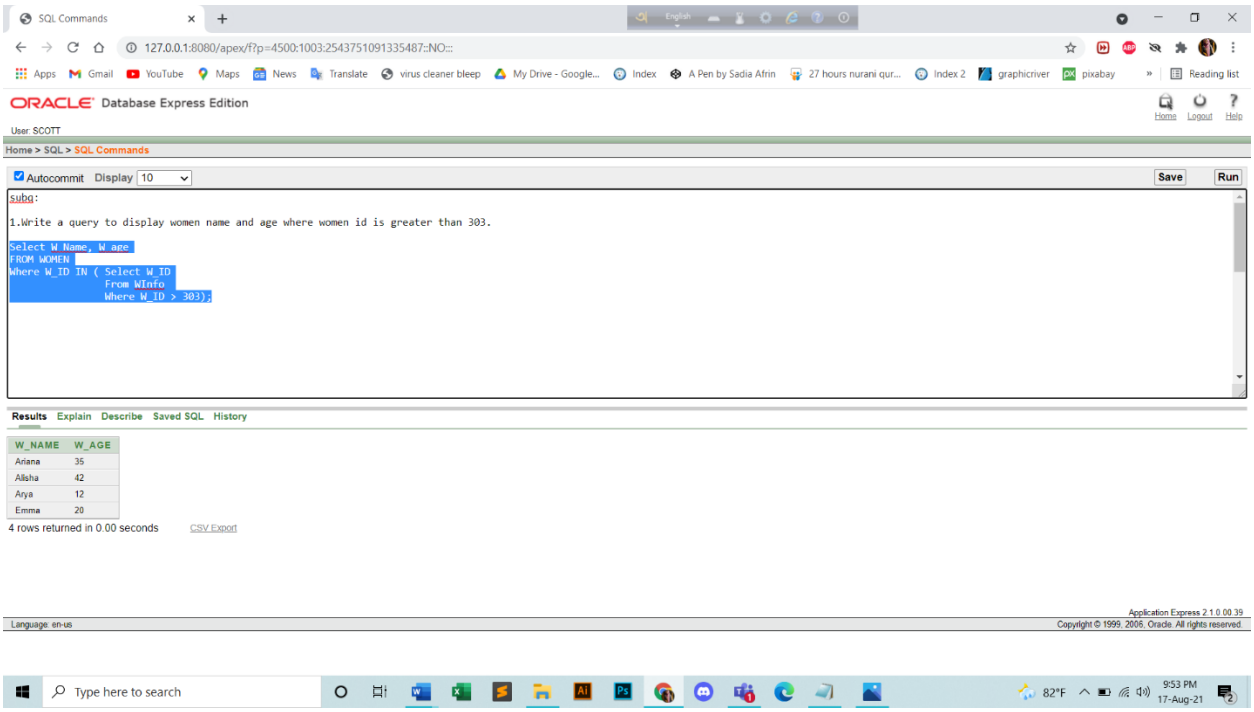


Subquery (4 among these use group function in 2 subqueries):

Qus 01:

Write a query to display women name and age where women id is greater than 303.

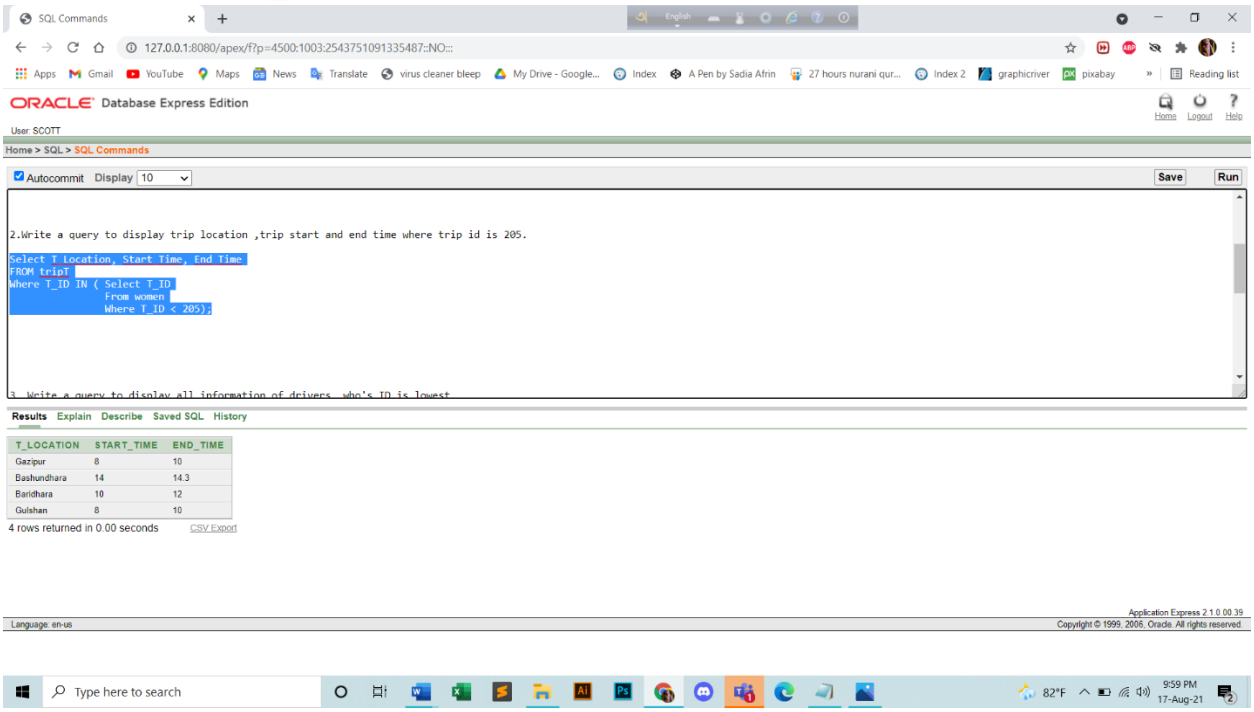
```
Select W_Name, W_age
FROM WOMEN
Where W_ID IN ( Select W_ID
                From WInfo
                Where W_ID > 303);
```



Qus 02:

Write a query to display trip location ,trip start and end time where trip id is smaller than 205.

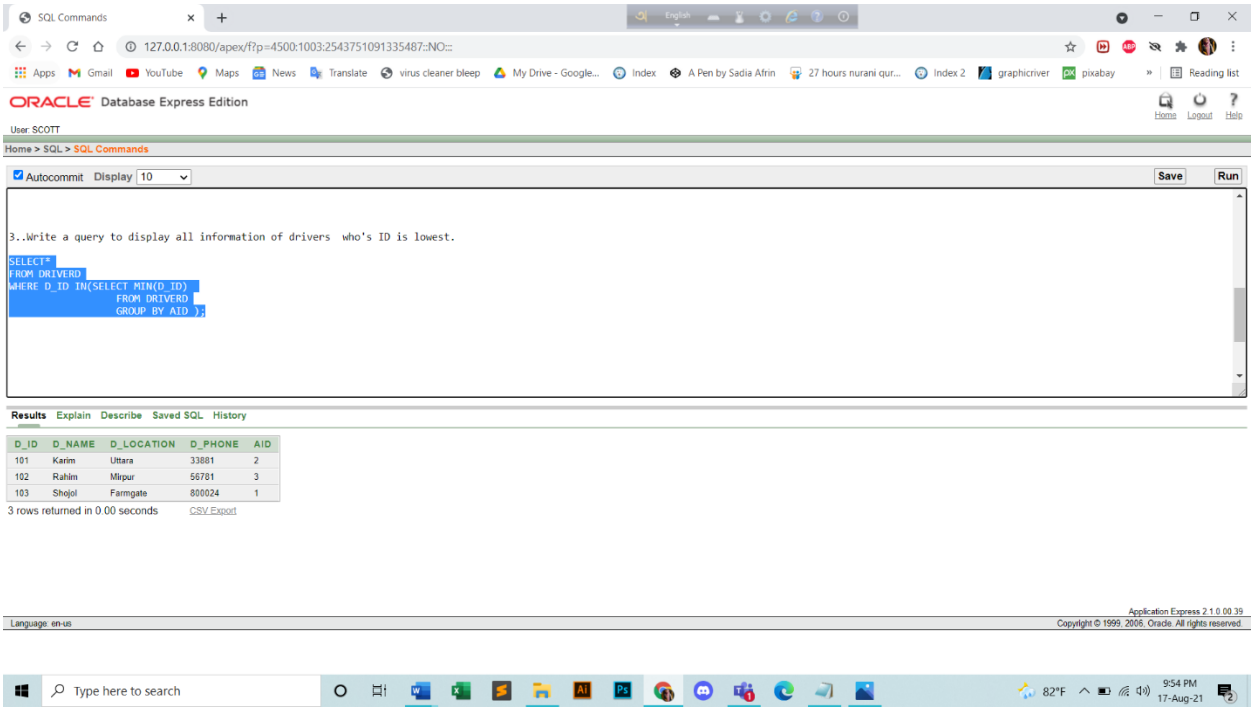
```
Select T_Location, Start_Time, End_Time
FROM tripT
Where T_ID IN ( Select T_ID
                From women
                Where T_ID < 205);
```



Qus 03:

Write a query to display all information of drivers who's ID is lowest.

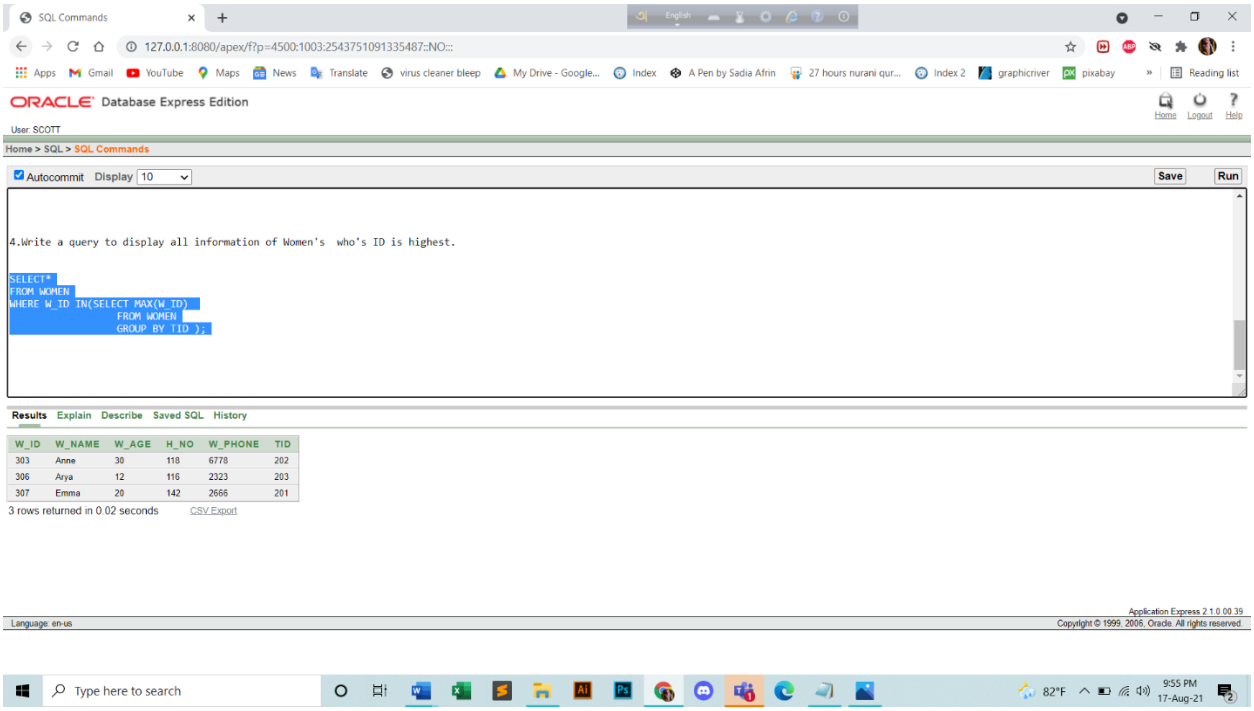
```
SELECT*
FROM DRIVERD
WHERE D_ID IN(SELECT MIN(D_ID)
              FROM DRIVERD
              GROUP BY AID );
```



Qus 04:

Write a query to display all information of Women's who's ID is highest.

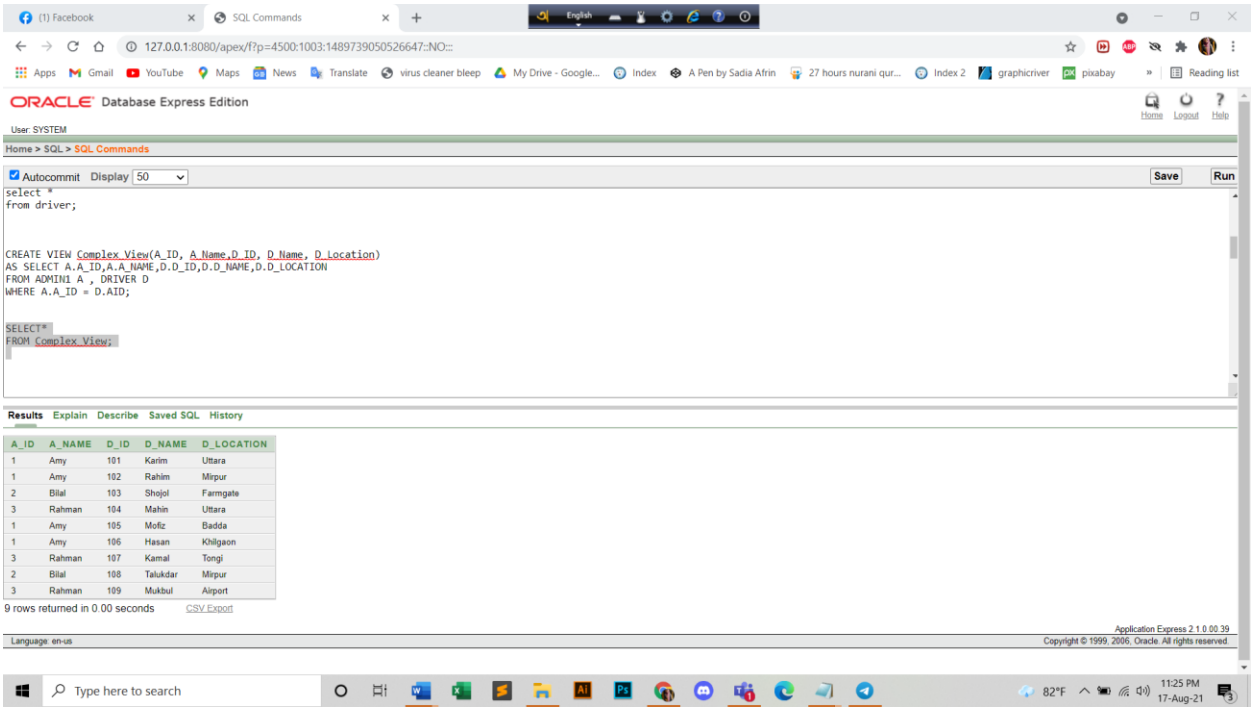
```
SELECT*
FROM WOMEN
WHERE W_ID IN(SELECT MAX(W_ID)
              FROM WOMEN
              GROUP BY TID );
```



View:

```
CREATE VIEW Complex_View(A_ID, A_Name,D_ID, D_Name, D_Location)
AS SELECT A.A_ID,A.A_NAME,D.D_ID,D.D_NAME,D.D_LOCATION
FROM ADMIN1 A , DRIVER D
WHERE A.A_ID = D.AID;
```

```
SELECT*
FROM Complex_View;
```



CONSTRAINTS:

create table New_women(W_ID NUMBER(12) NOT NULL ,W_Name varchar(32) default 'No Name',

W_age number(10) check (W_AGE>= 50), H_No number(10), W_phone number(12) unique,TID number(12));

describe New_women;