American International University-Bangladesh (AIUB)

Title : **Prison Management System (Project)**

Course : Introduction to Database

Section : **B**

Submitted To : Rifat Tasnim Anannya

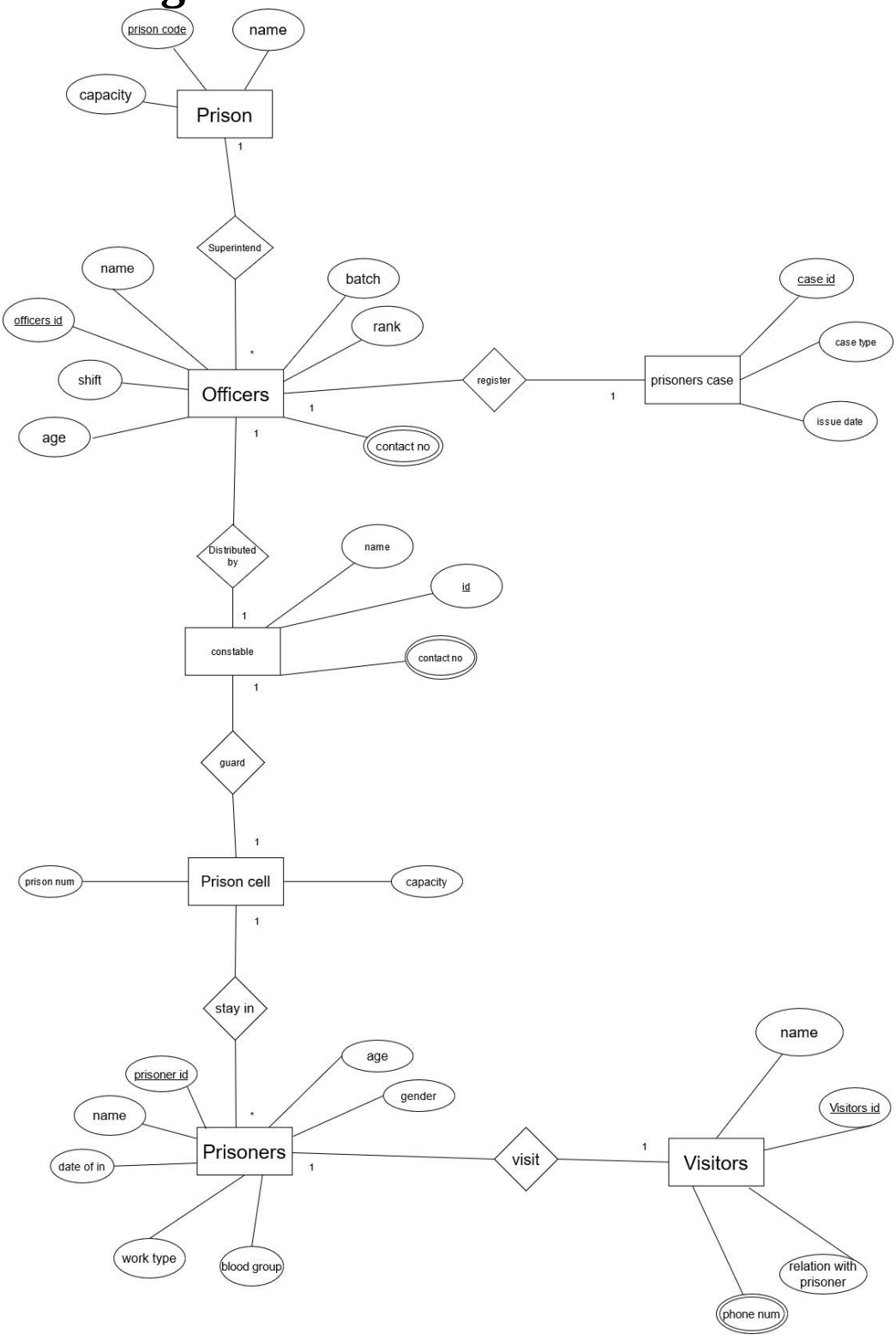
Submitted By :

Name	ID	Contribution
Maliha Tasnuva	**20-43852-2**	Graph ,Description, Table creation, Data Insertion.
Limia Sadina Sathi	**20-43851-2**	Graph ,Description, Table creation, Data Insertion.
Md Ashaful Islam Emad	**20-43710-2**	Normalization, Table creation, Data Insertion.
Noman Bhuyan	**20-43830-2**	Table creation, Data Insertion.
Ishtehaq Ahmed	**20-43933-2**	Table creation, Data Insertion.
Mihir Kanti Roy	**20-43785-2**	Final Table, Table creation, Data Insertion.

Description:

- Prisons are containing uniquely prison code, name and capacity.
- An officer will be identified by the officer's id, name, age, contact number (multiple), batch, rank, and shift. Each prison superintends by many officers.
- Each officer can register one prisoner case using a unique case id. Case type and issuing date will be also stored in the prisoners' case. Officers distributing constable.
- Prison cells will be guarded by the constable. Each constable will be identified by the constable id, name, contact number (multiple) will be stored.
- Every prisoner will be uniquely identified by the prisoner's id, name, age, gender, blood group, date of in and work type will be stored as well. Prisoners will stay in prison cells. Every prison cells contains prison number, capacity.
- Every prisoner will have one unique visitor and the management system will store the visitor id, name, relationship with the prisoner, and one or more phone numbers. Each prisoner can meet one visitor at a time.

ER Diagram:


prison code
name
capacity
Prison
1
Superintend
name
batch
officers id
rank
*
shift
Officers
register
prisoners case
case id
case type
issue date
1
1
age
contact no
Distributed by
name
id
1
constable
contact no
1
guard
1
prison num
Prison cell
capacity
1
stay in
name
age
prisoner id
gender
*
name
Prisoners
visit
Visitors
Visitors id
1
date of in
1
work type
blood group
relation with prisoner
phone num

Normalization:

Superintend (Prison code, name, capacity, officer's id, name, age, contact no, batch, rank, shift).

1NF: Contact no is a multivalued attribute.
2NF:
Prison code, name, capacity.
Officers id, name, age, contact no, batch, rank, shift.
3NF:
Prison code, name, capacity.
Officers id, name, age, batch, rank, shift.
Officers id, contact no.

TABLES FROM SUPERINTED:

1. Prison code, name, capacity
2. Officers id, name, age, batch, rank, shift, prison code
3. Officers id, contact no - composite pk.

Register (Officers id, name, age, contact no, batch, rank, shift, case id, case type, issue date).

1NF: Contact no is a multivalued attribute.
2NF:
Officers id, name, age, contact no, batch, rank, shift.
Case id, case type, issue date.
3NF:
Officers id, name, age, batch, rank, shift.
Officers id, contact no.
Case id, case type, issue date.

Tables from Register:

1. Officers id, name, age, batch, rank, shift, case id.
2. Officers id, contact no.
3. Case id, case type, issue date.

Distributed by (Officers id, name, age, contact no, batch, rank, shift, Id, name, contact no).

1NF: Contact no is a multivalued attribute's.

2NF:

Officers id, name, age, contact no, batch, rank, shift.
Id, name, contact no.

3NF:

Officers id, name, age, batch, rank, shift.
Officers id, contact no.
Id, name, contact no.
Id, contact no.

Tables from Distributed by:

1. Officers id, name, age, batch, rank, shift, id.
2. Officers id, contact no.
3. Id, name, contact no.
4. Id, contact no.

Guard (Id, name, contact no, number, capacity).

1NF: Contact no is a multivalued attribute's.

2NF:

Id, name, contact no.
Number, capacity.

3NF:

Id, name.
Id, contact no.
Number, capacity.

Tables from guard:

1. Id, name, contact no, number.
2. Id, contact no.
3. Number, capacity.

Stay in (Number, capacity, prisoner id, name, date of in, age, gender, blood group, work type, eat).

1NF: There is no multivalued attributes.

2NF:

Number, capacity.
Prisoner id, name, date of in, age, gender, blood group, work type, eat.

3NF:

Number, capacity.
Prisoner id, name, date of in, age, gender, blood group, work type, eat.

Tables from Stay in:

1. Number, capacity.
2. Prisoner id, name, date of in, age, gender, blood group, work type, Number.

Visit (Prisoner id, name, date of in, age, gender, blood group, work type, eat, visitor's id, name, phone number, relation with prisoner).

1NF: Phone number is a multivalued attribute.

2NF:

Prisoner id, name, date of in, age, gender, blood group, work type, eat.
Visitors id, name, phone number, relation with prisoner.

3NF:

Prisoner id, name, date of in, age, gender, blood group, work type, eat.
Visitors id, name, relation with prisoner.
Visitors id, phone number.

Tables from Visit

1. Prisoner id, name, date of in, age, gender, blood group, work type, visitors id.
2. Visitors id, name, relation with prisoner.
3. Visitors id, phone number.

Final Table:

Prison code, name, capacity, - prison.

Officers id, contact no - composite pk- officer contact (one- many).

Officers id, name, age, batch, rank, shift, case id, constable id, Prison code - officer's.

Case id, case type, issue date- prisoners case.

Constable Id, mobile no –constable contact (one –many).

Constable Id, name, contact no, number- constable.

Number, capacity - prison cell- (one-many).

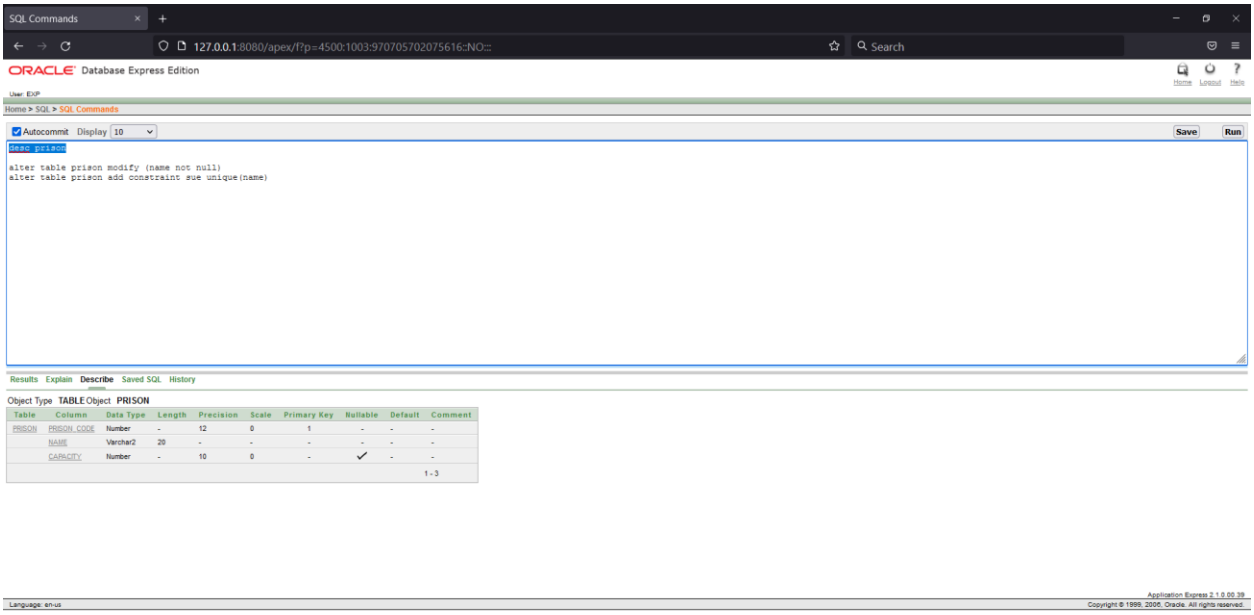
Prisoner id, name, date of in, age, gender, blood group, work type, Number, case id, Visitor's id- Prisoners.

Visitor's id, name, relation with prisoner- Visitors.

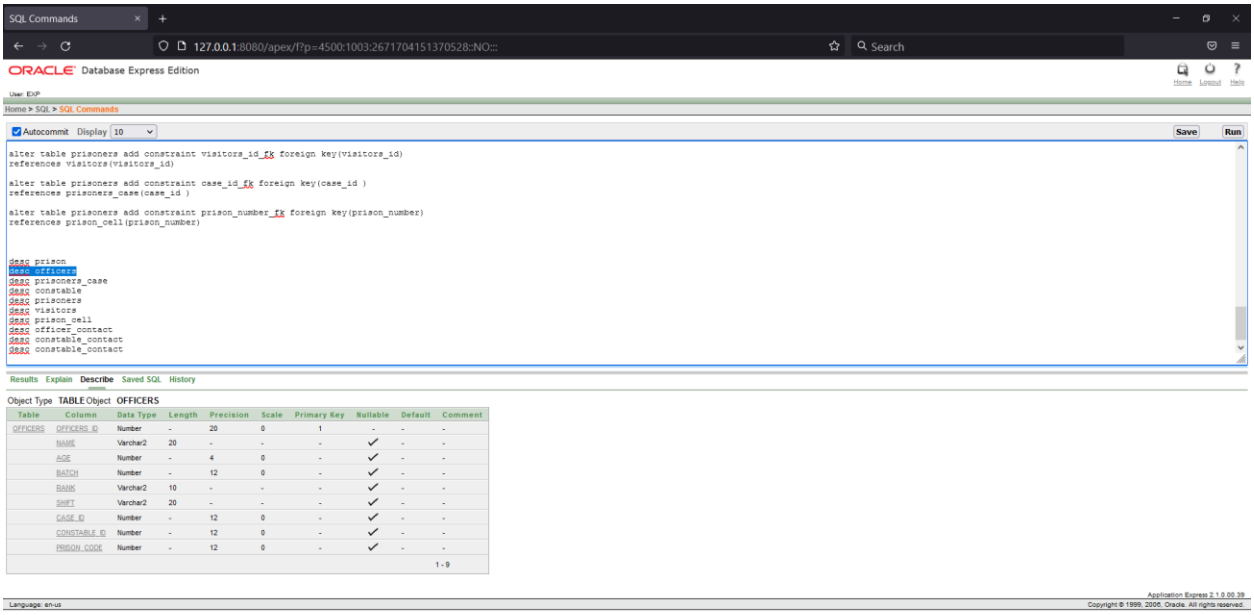
Visitor's id, phone number - visitor contact (one-many).

Table creation:

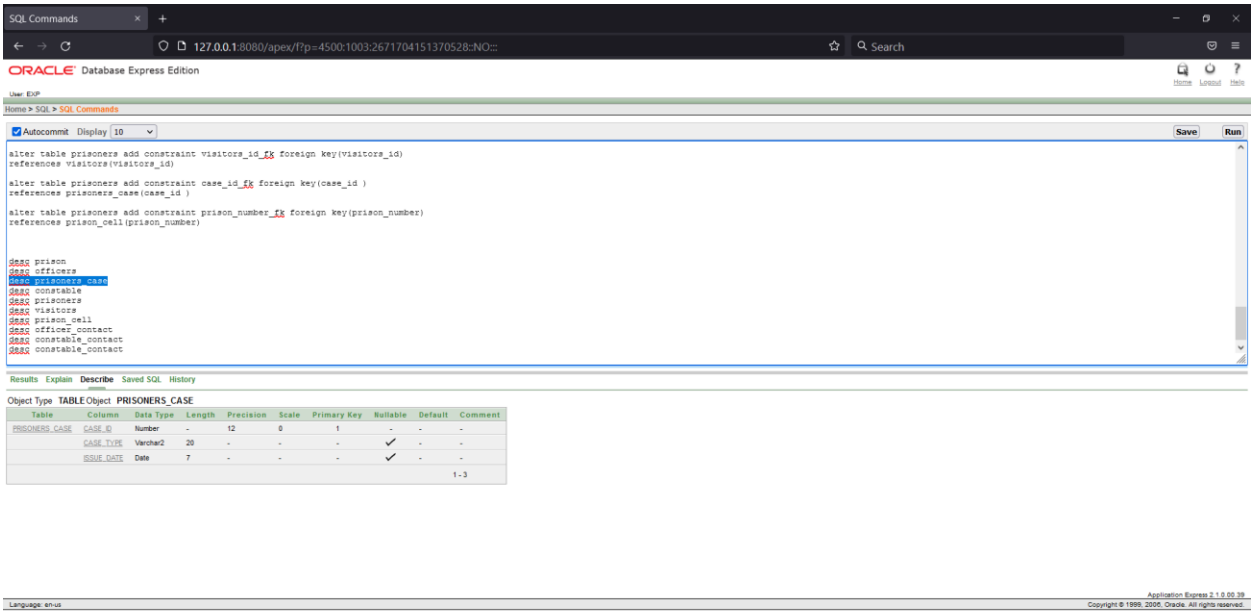
Prison Table:



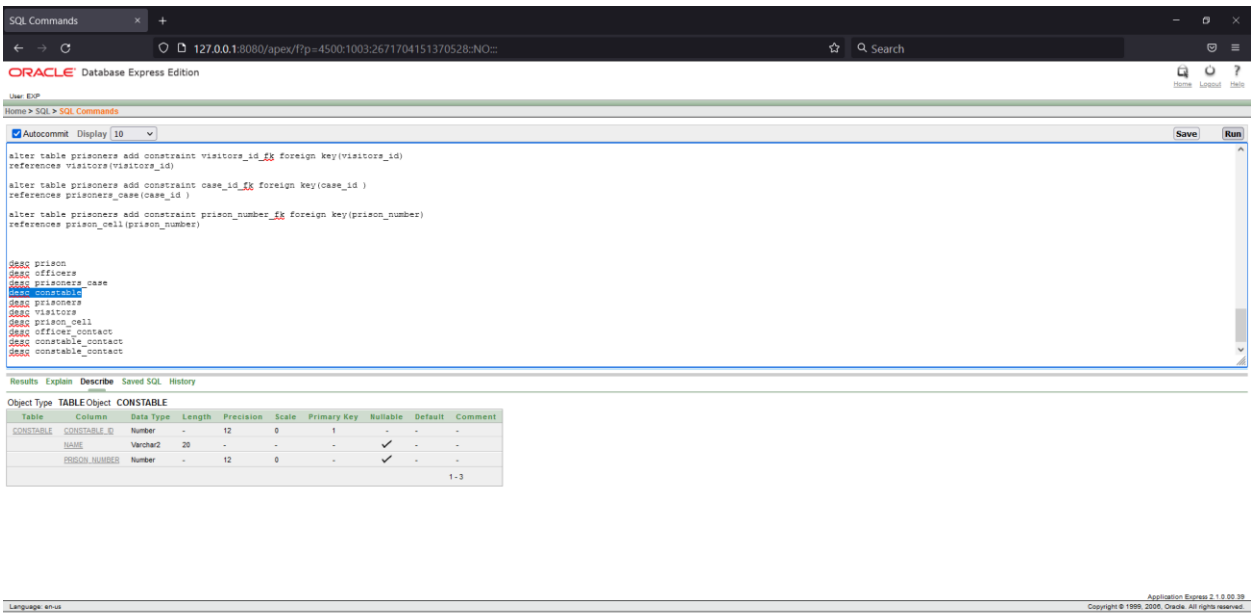
Officer's Table:



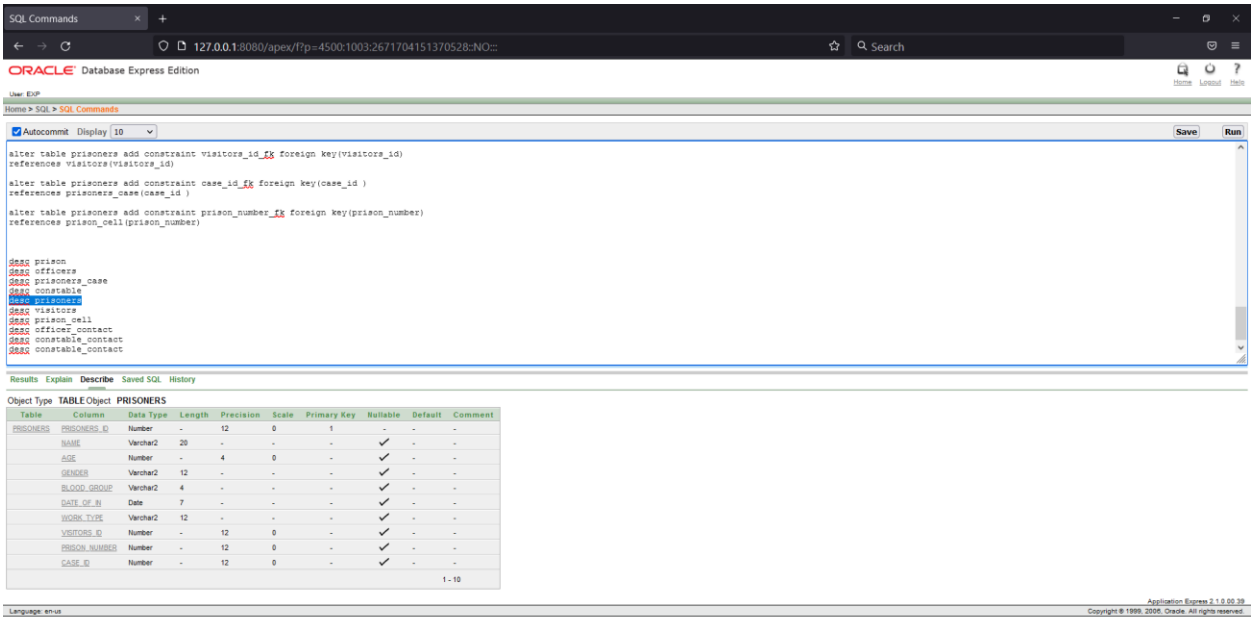
Prisoner’s case Table:



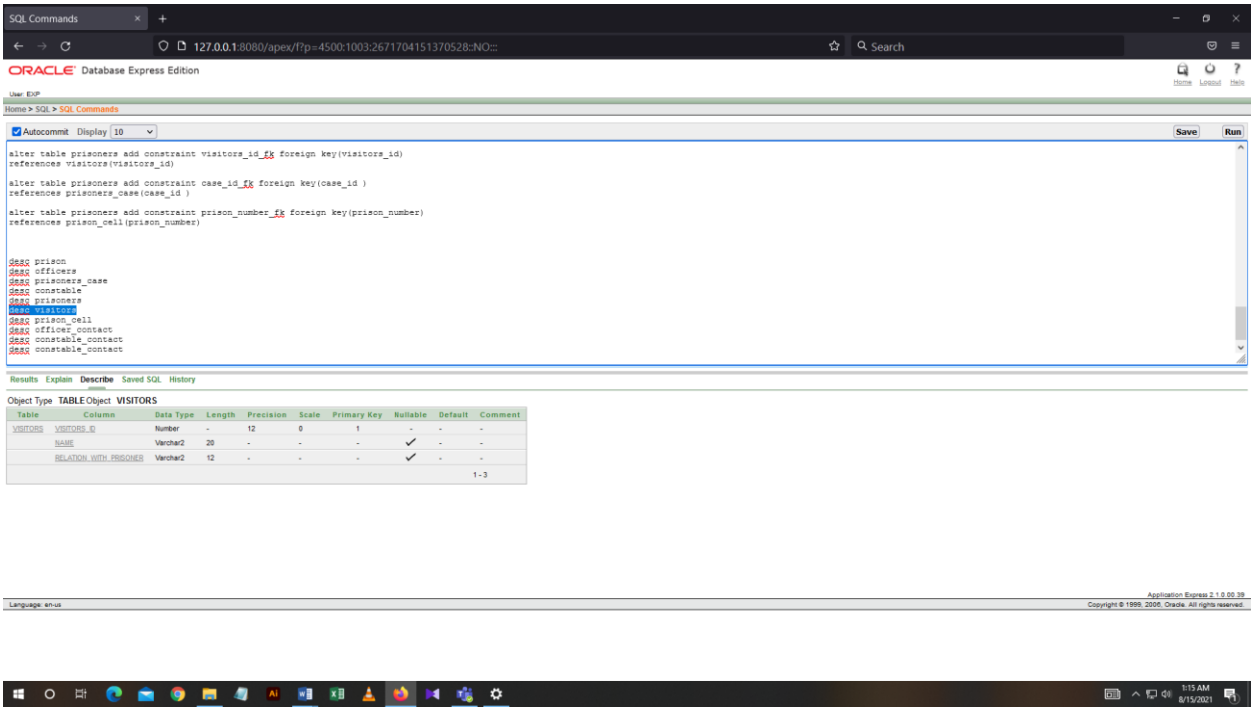
Constable Table:



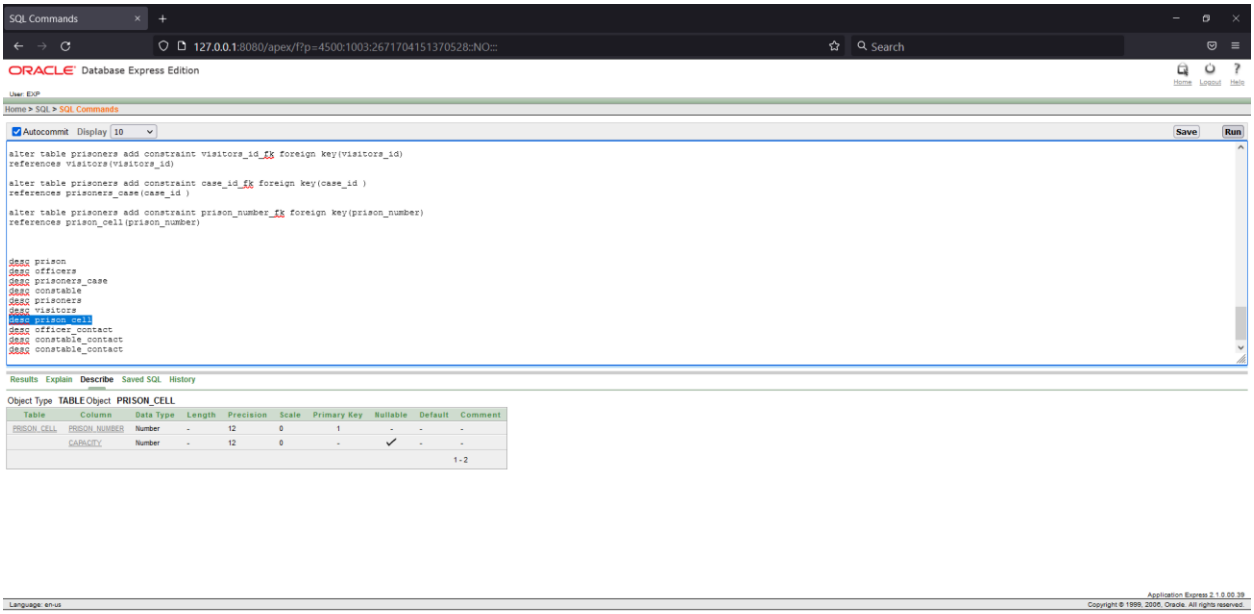
Prisoner's Table:



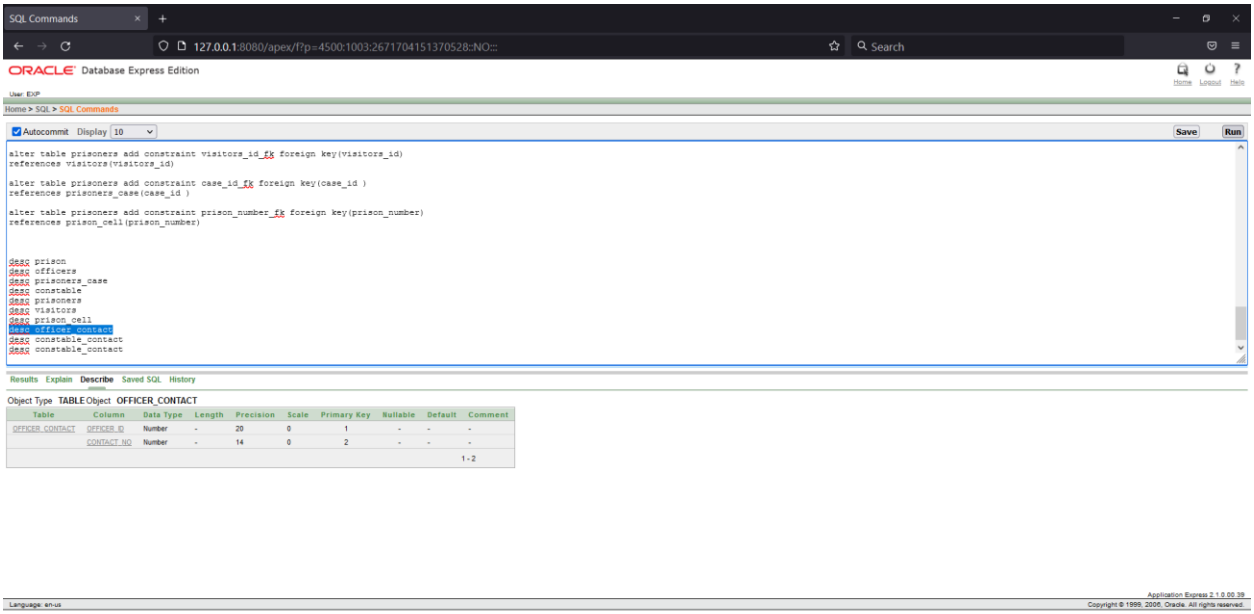
Visitor's Table:



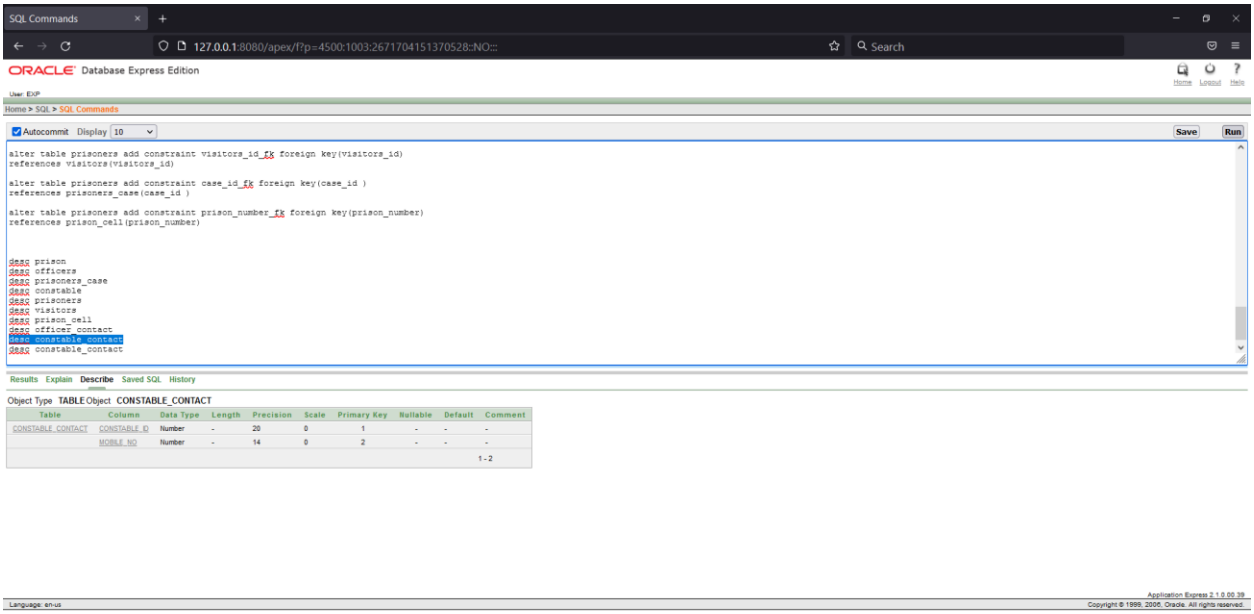
Prison Cell Table:



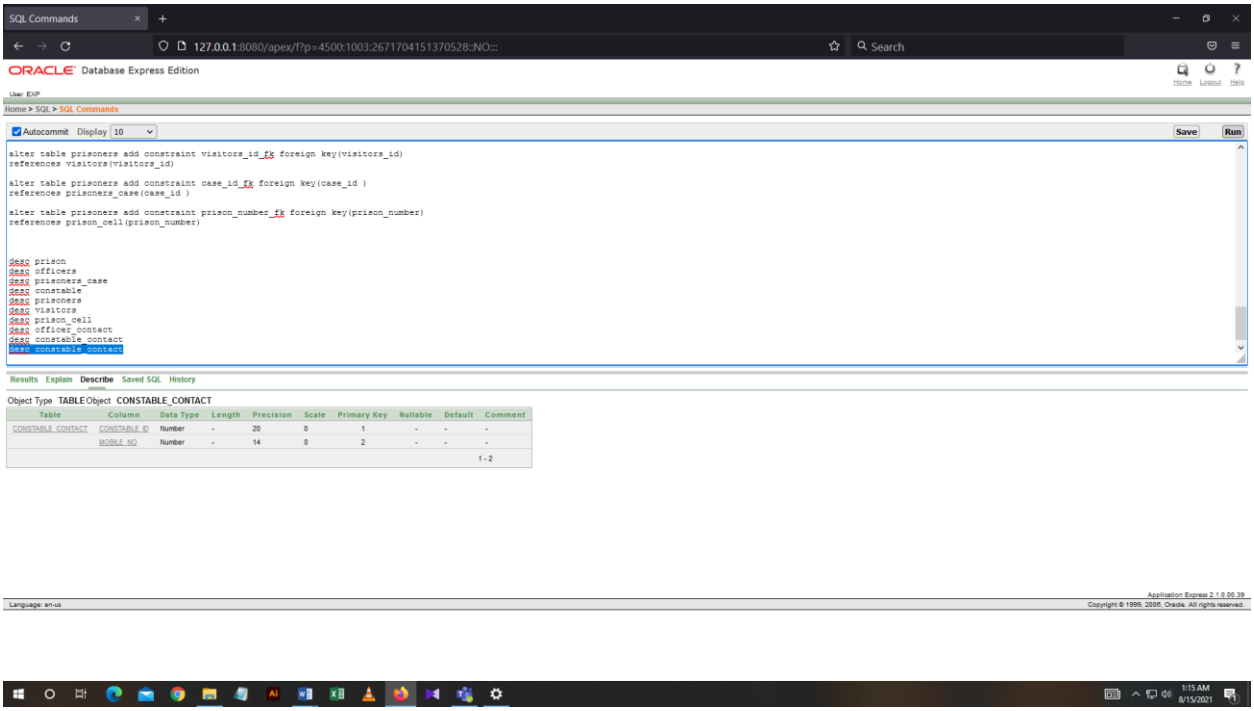
Officer's Contact Table:



Constable Contact Table:

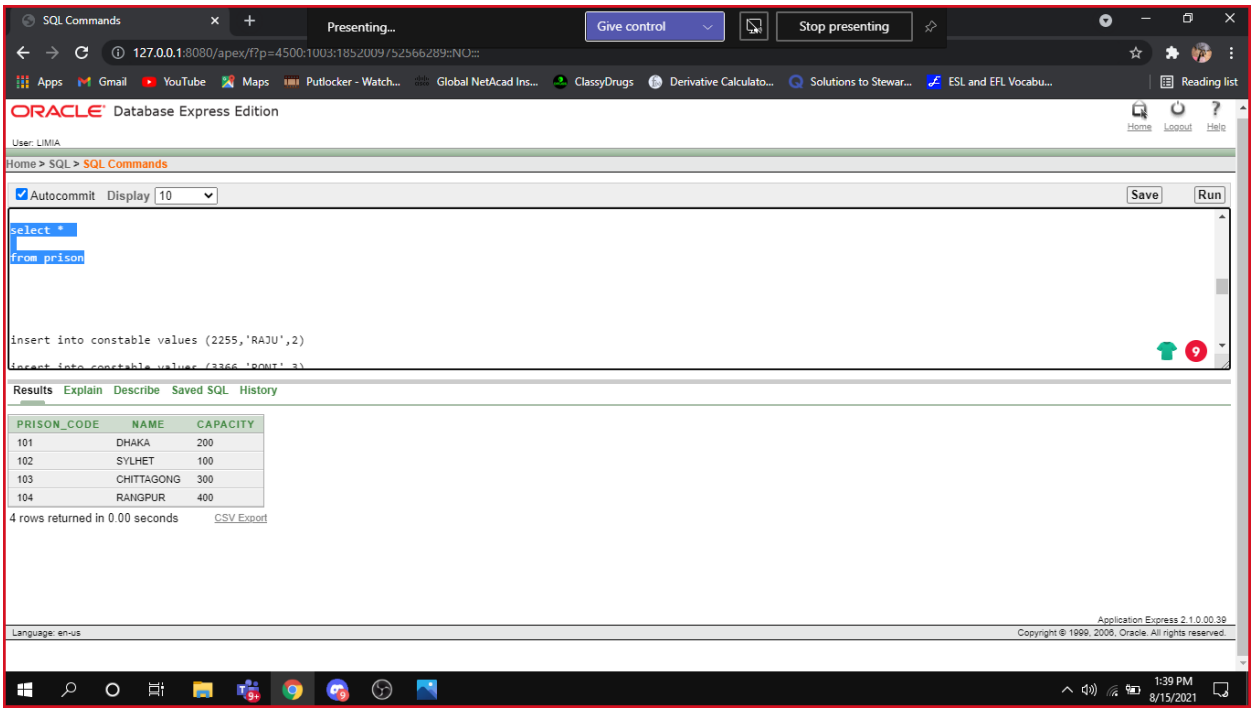


Constable Contact Table:

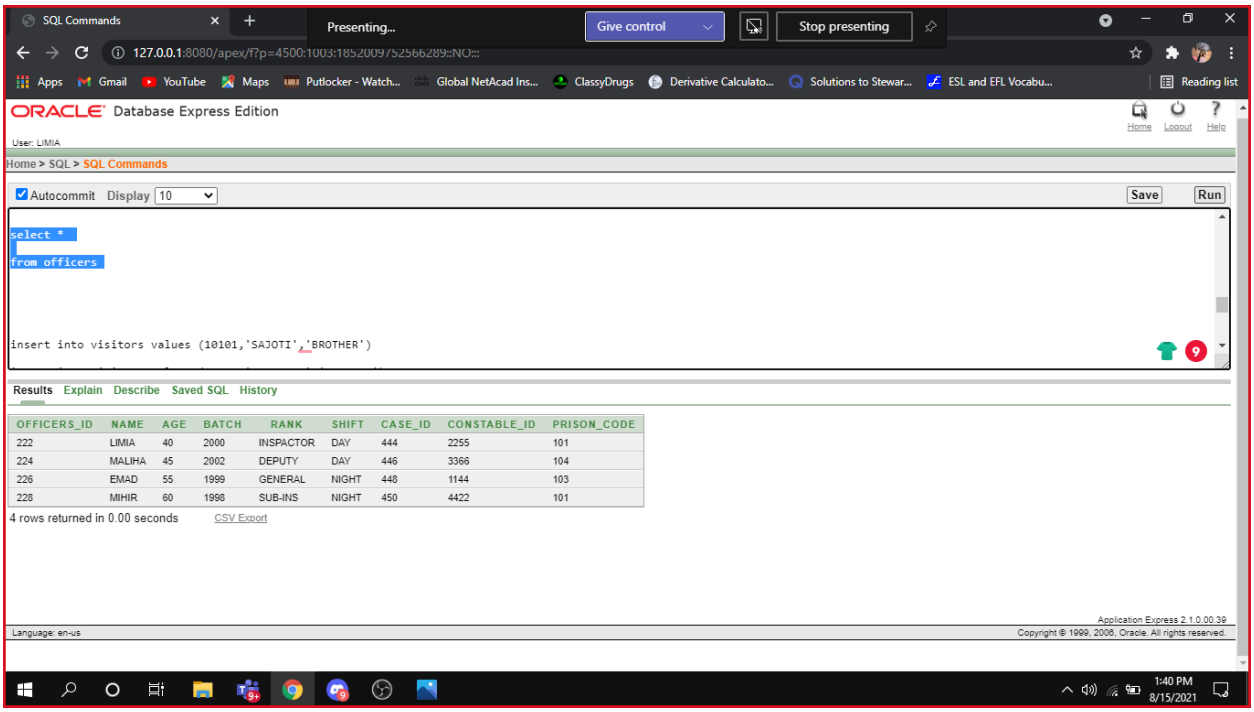


Insertion:

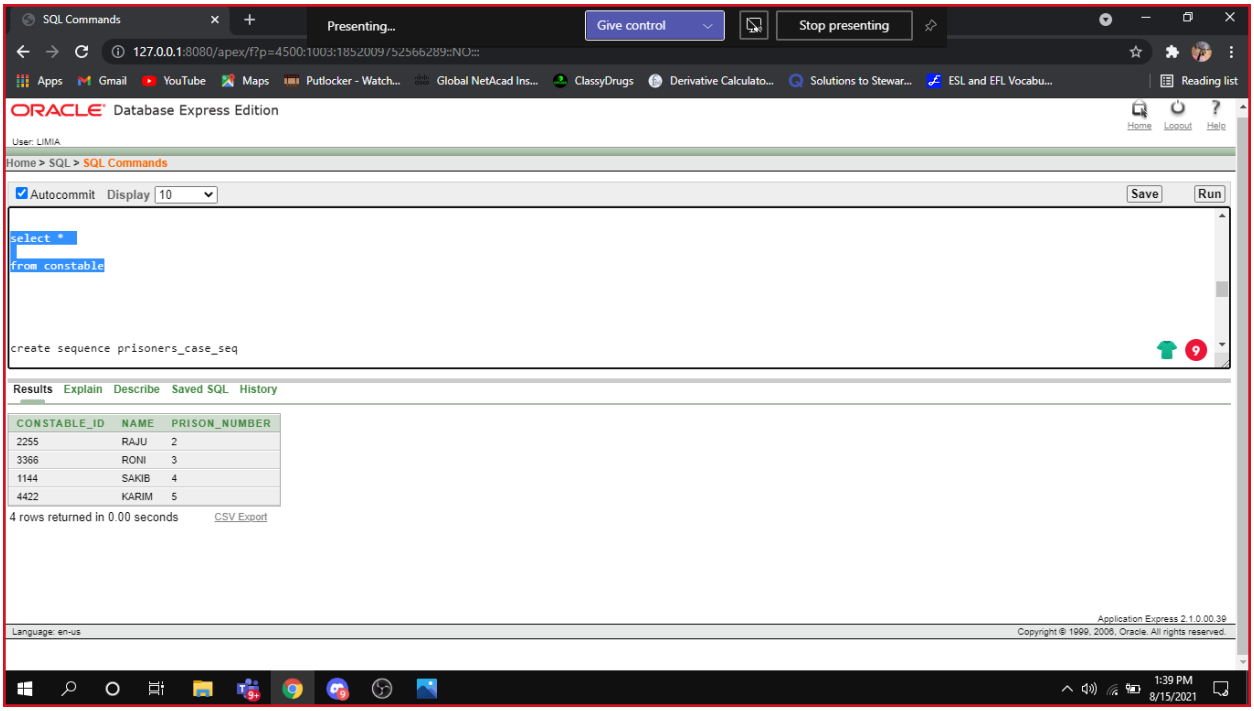
Prison Table:



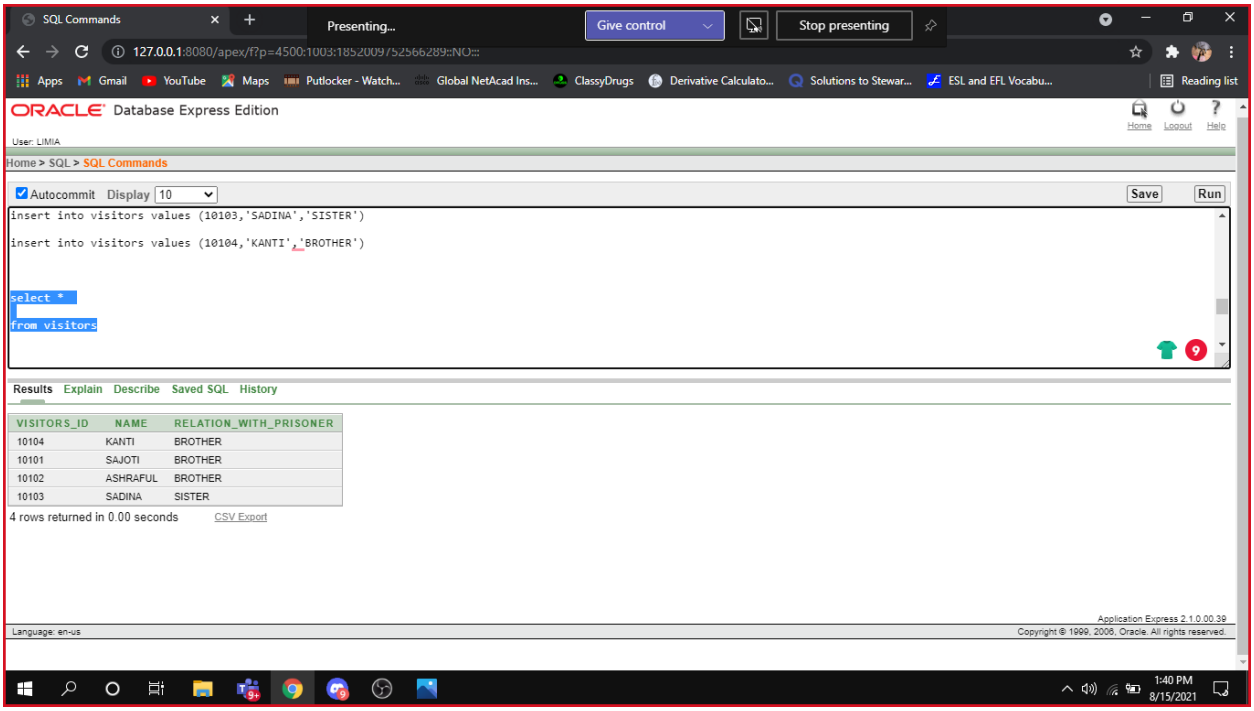
Officer's Table:



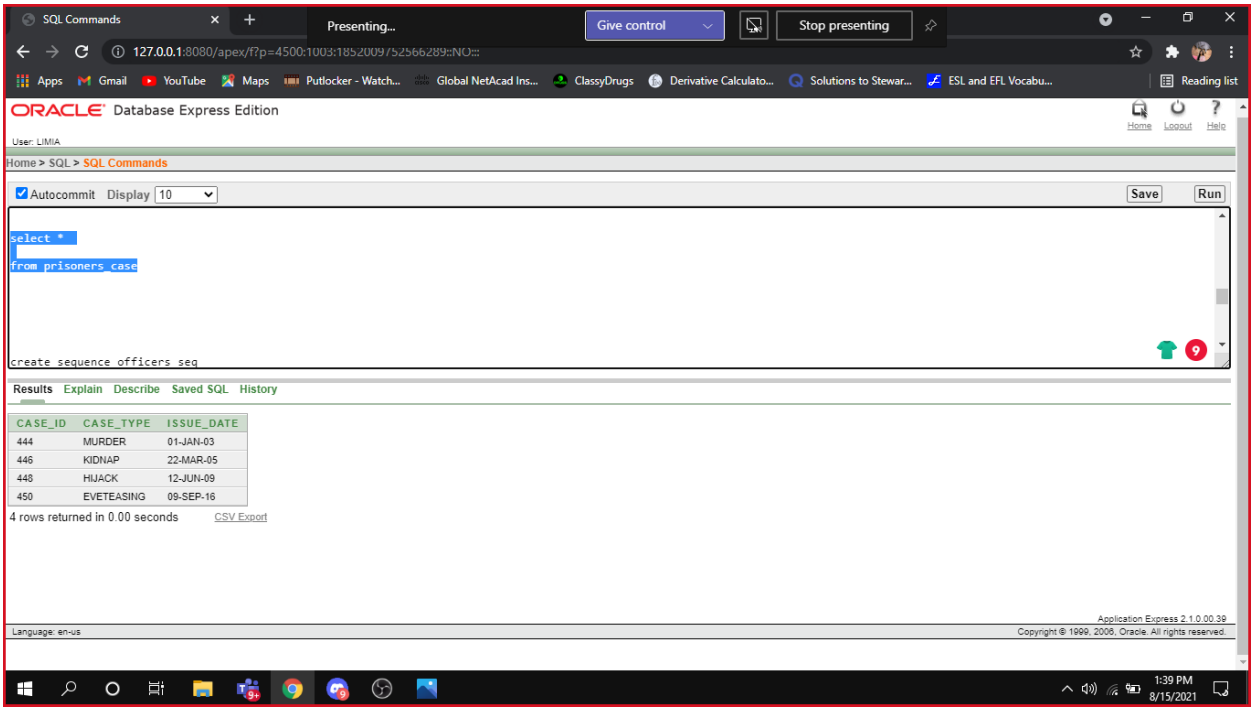
Constable Table:



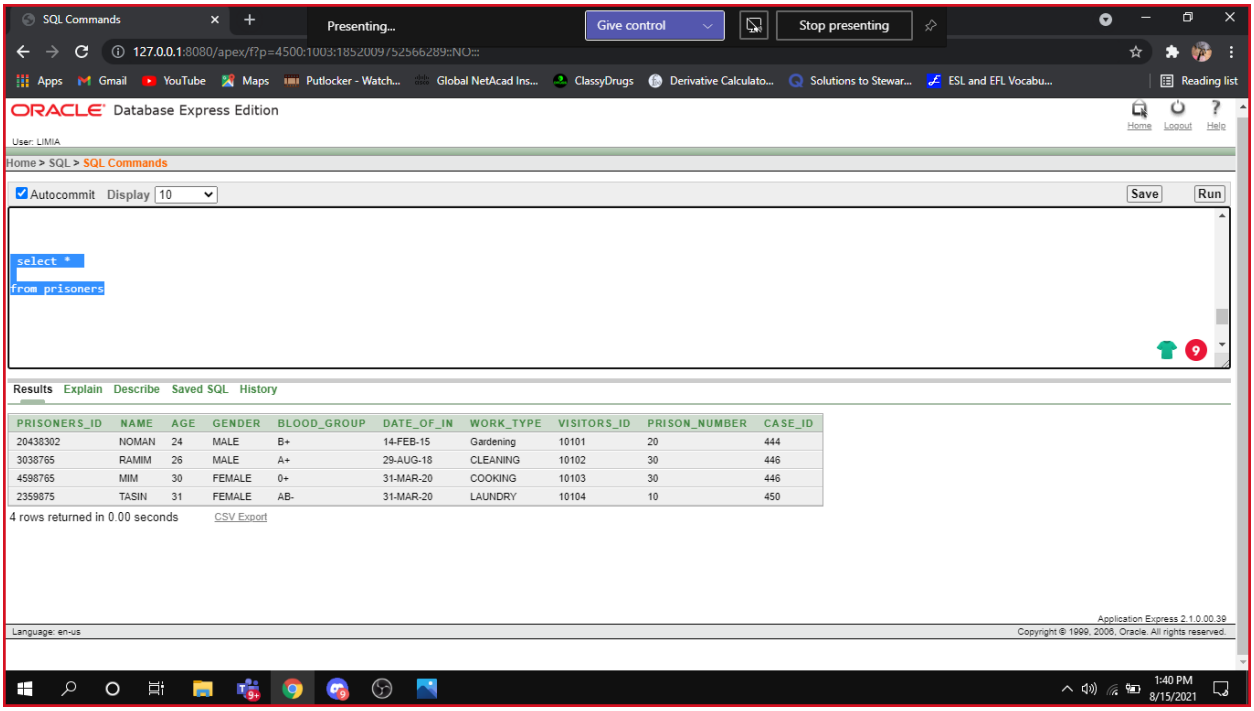
Visitor's Table:



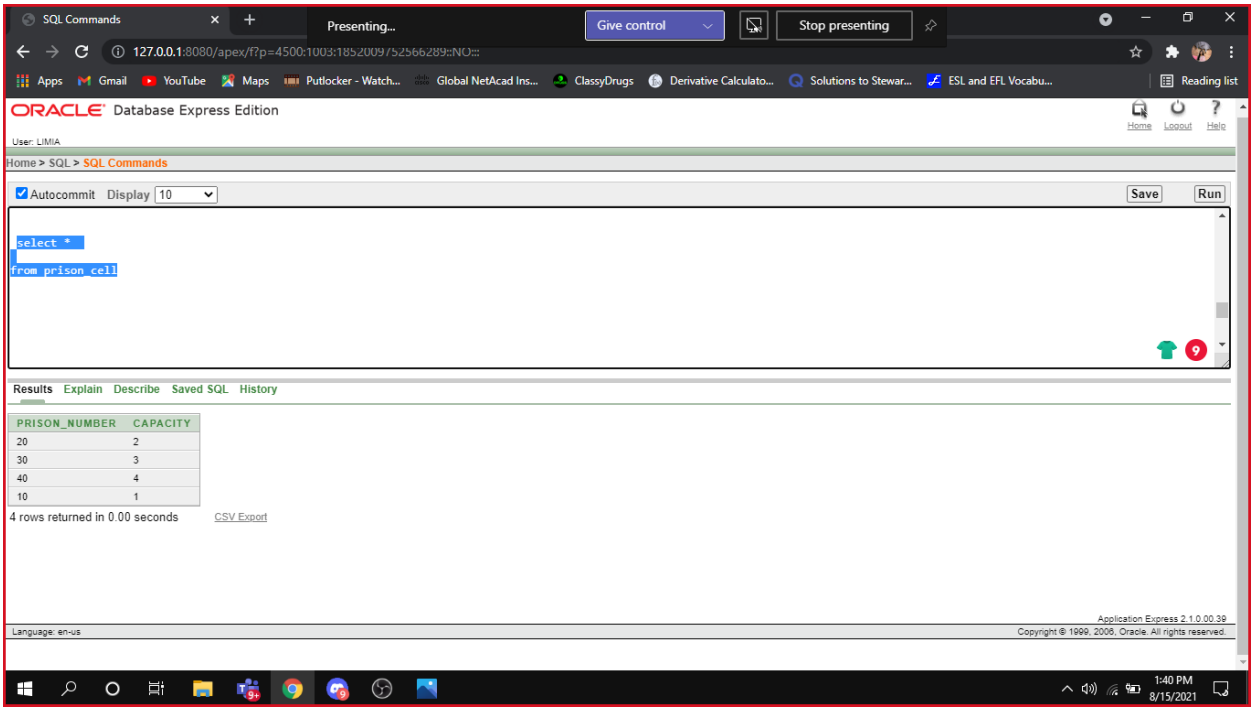
Prisoner's Case Table:



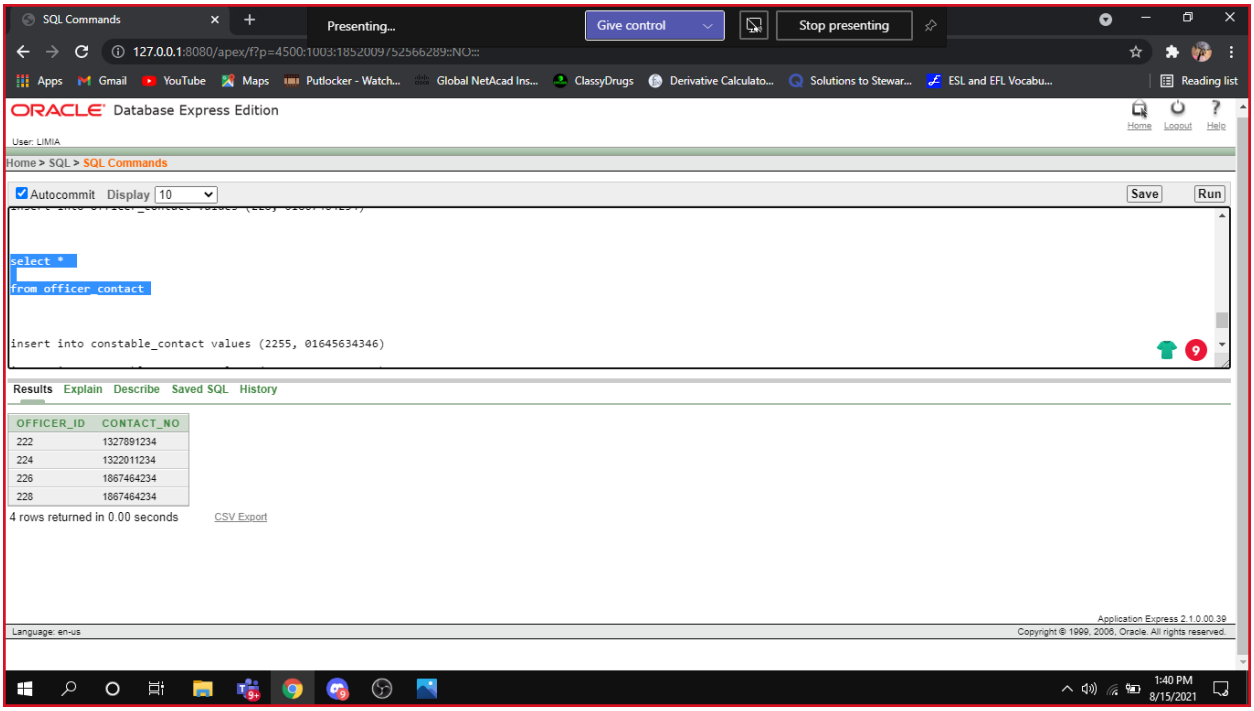
Prisoner Table:



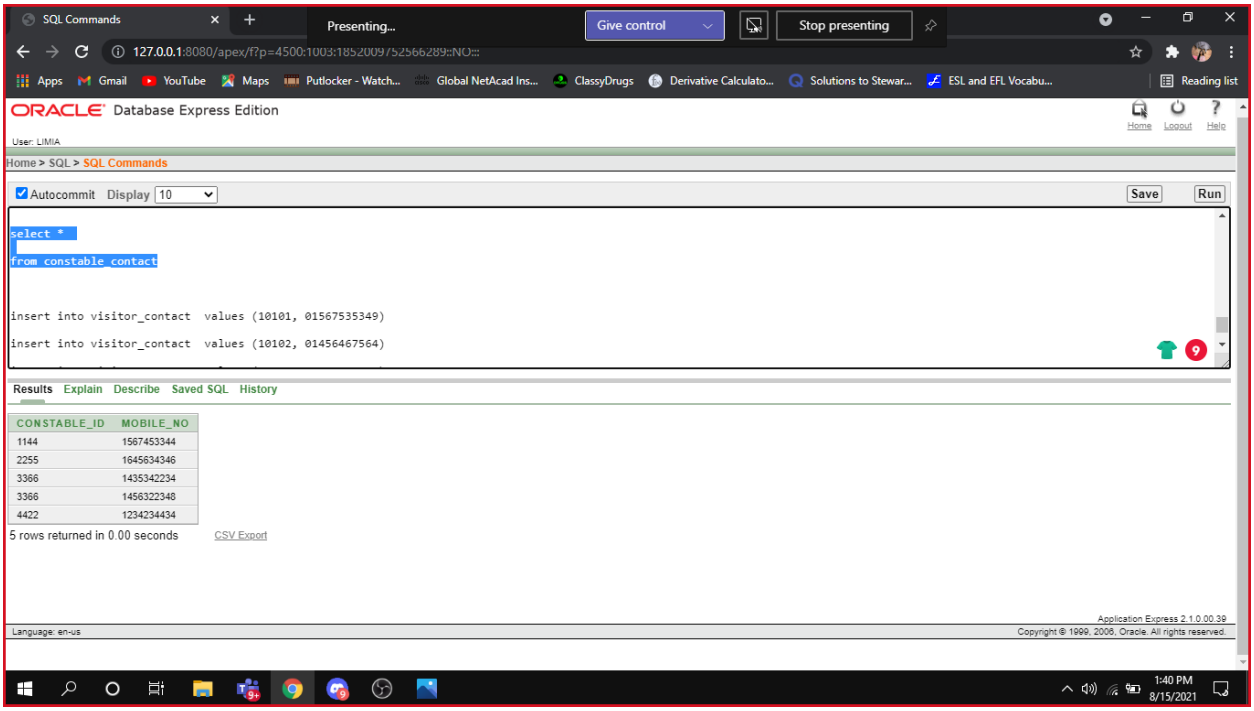
Prison Cell Table:



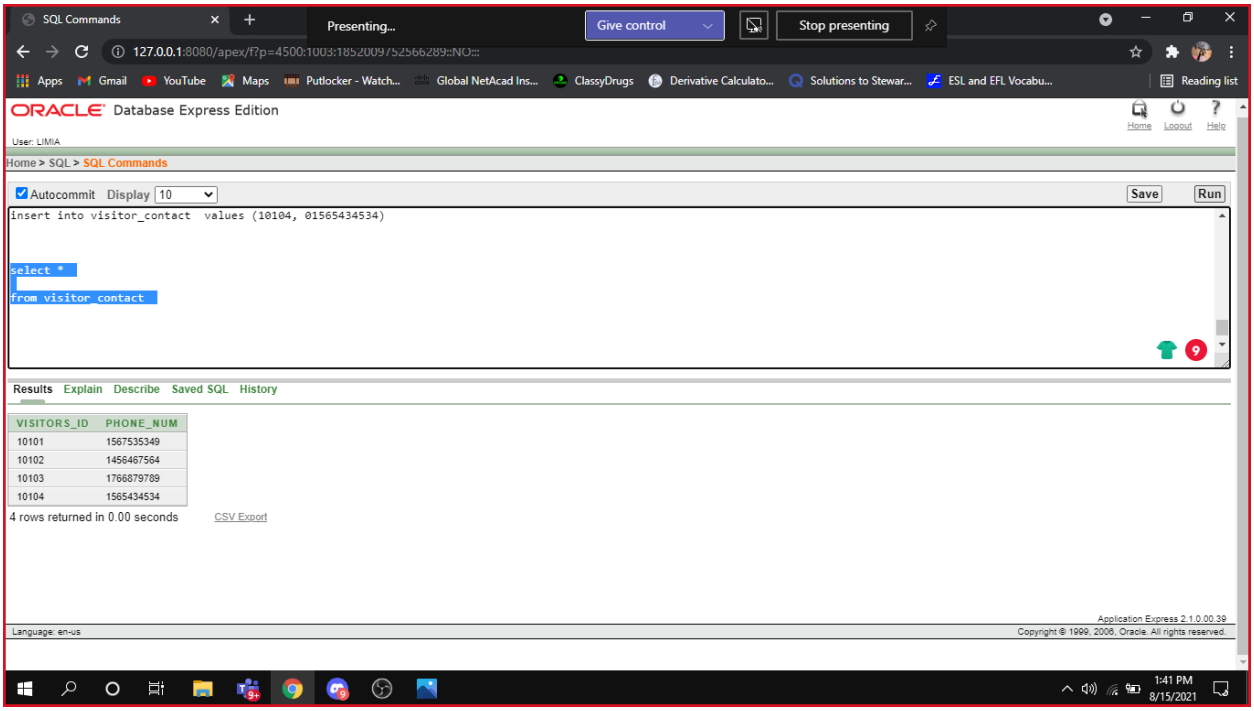
Officer Contact Table:



Constable Contact Table:



Visitor Contact Table:



Some of Questions from this topic:

1. Display, Officers name, batch and Whose batch before 2000?
2. Display, Officers name, batch, shift, rank, age and Whose age is less than or equal to 60?
3. Display, Prison name, prison_code and name equal to null and not null?
4. Display, Prisoners name, date_of_in, age and Who are in '14-FEB-15' and '29-AUG-18'?
5. Write a query to display OFFICERS_ID name length and concate name and age?
6. Write a query to display OFFICERS_ID and maximum age of the OFFICERS whose max age is greater than 30
7. Create a view of PRISONERS_ID whose is 20438302?
8. Write a query for creating sequence?