



# PRISON MANAGEMENT SYSTEM

1. NUR-A-MARZAN DIPRO : 19-39529-1

2. SAMIR FAISAL : 19-41037-2

3. MD ISLAM SARDAR : 19-41055-2

4. MD RIDWAN ISLAM : 19-39432-1

COURSE NAME: INTRODUCTION TO DATABASE

SECTION : F

CONTENTS :

Description	Page No
Introduction	01
Scenario Description	02
ER Diagram	03
Normalization	04
Schema Diagram	12
Table Creation	14
Data Insertion	30
Query Writing	44
Relational Algebra	50
Conclusion	51

## **INTRODUCTION:**

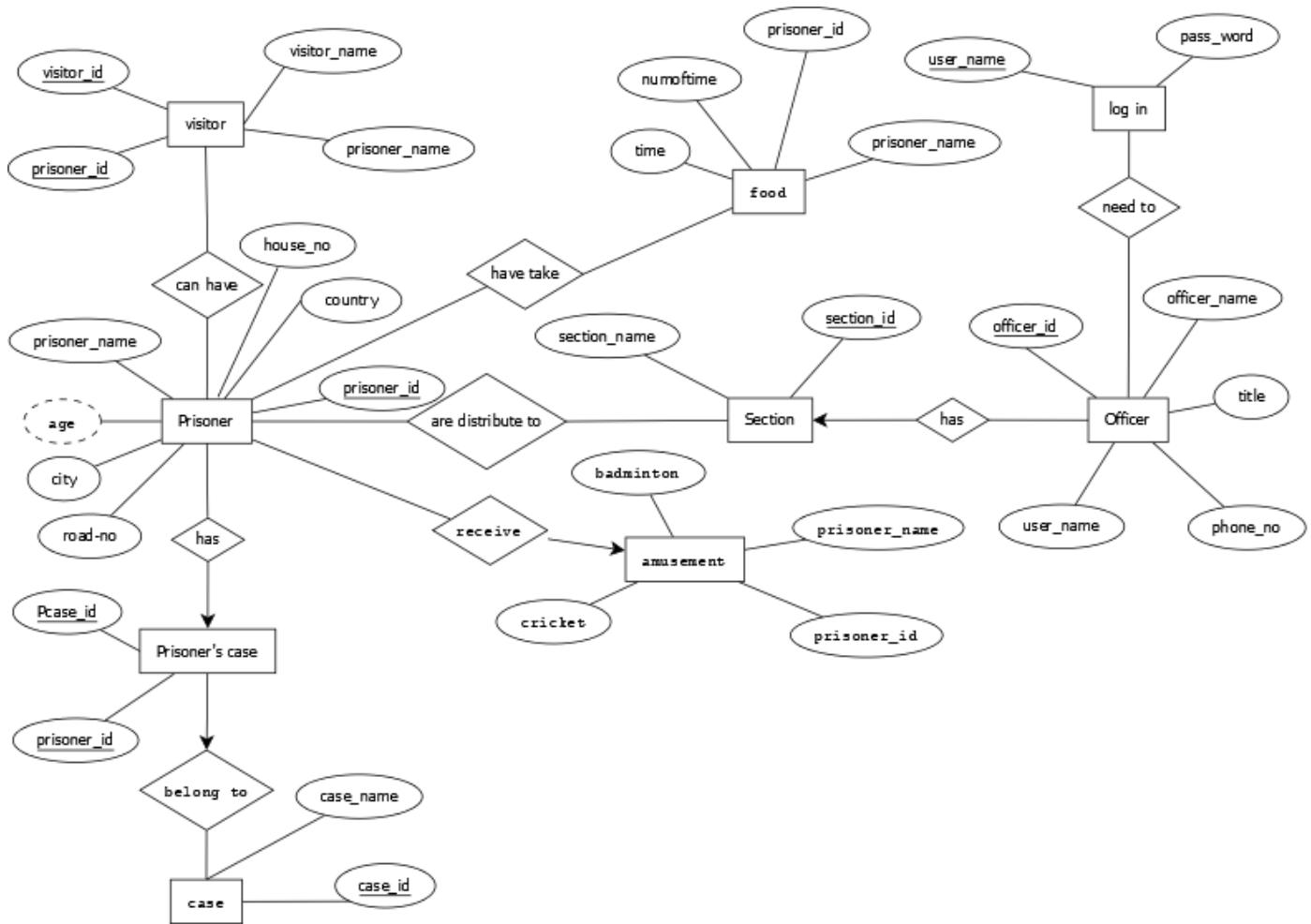
Our project is about a standard prison managing system. It includes the basic modeling of such managing environment which assures a safe and sufficient system. Having prisoners sectioned into different sections and those sections being overlooked by different officers in charge, we think we have created a quite realistic model. The project features the scenario modeling, the entity relationship diagram, normalization, schema diagram for creating the management system. It also includes some inserted data and DDM or data manipulation works with a part where we have applied some relational algebra also.

# **Prison management System**

## ***'Scenario Description'***

In a prison management system, a prisoner is distributed into several sections. Many prisoners are inserted into one section. A prisoner is identified by prisoner id and prisoner name. The system also stores prisoner's age, house-no, road-no, city, country. The Section has also section name and section id. One prisoner must have a minimum of one prison case which is identified by case id, case date. Prison case is also included with the name of the prisoner. One prisoner case is may belong to many cases. Those cases are identified by case id and case name. One section is maintained by many officers. Those officers are identified by officer id, officer name. The system is also storing officer title, phone number. Officers need to log in their online official account which has user name and password. A prisoner takes many foods. Foods which is included how many time prisoners take foods, which prisoner take food that also included. A prisoner can have many visitors. A visitor may visit many prisoners. Visitors are identified by visitor id, visitor name and visitor phone number. Prisoner receive many amusements. The authority arranges cricket and badminton tournament for prisoner recreation. Authority calculate which prisoner enjoy those amusement and participate there.

## **ER DIAGRAM:**



## **NORMALIZATION :**

UNF

are distribute to ( prisoner\_id , prisoner\_name, road\_no, house\_no, city, country, age, section\_name, section\_id )

1NF:

There is no multivalued attribute.

(prisoner\_id, prisoner\_name, age, house\_no, city, country, section\_id, section\_name) .

2NF:

1. prisoner\_id, prisoner\_name, age, house\_no, road\_no, city, country.
2. section\_id, section\_name.

3NF:

1. prisoner\_id, prisoner\_name, age.
2. House\_no, road\_no, city, country.
3. section\_id, section\_name.

## **Table Creation:**

1. prisoner\_id, prisoner\_name, age, address\_id .
2. House\_no, road\_no, city, country, address\_id.
3. section\_id, section\_name.
4. prisoner\_id, section\_id.

UNF:

can have (prisoner\_id, prisoner\_name, age, house\_no, road\_no, city, country, visitor\_id, visitor\_name).

1NF:

There is no multivalued attribute.

(prisoner\_id, prisoner\_name, age, house\_no, road\_no, city, country, visitor\_id, visitor\_name).

2NF:

1. prisoner\_id, prisoner\_name, age, house\_no, road\_no, city, country.

2. visitor\_id, visitor\_name.

3NF:

1. prisoner\_id, prisoner\_name, age.

2. house\_no, road\_no, city, country.

3. visitor\_id, visitor\_name.

## **Table Creation:**

1. prisoner\_id, prisoner\_name, age, **address\_id**.

2. house\_no, road\_no, city, country, address\_id.

3. visitor\_id, visitor\_name.

4. **prisoner\_id**, **visitor\_id**.

UNF:

Has ( prisoner\_id, prisoner\_name, age, house\_no, road\_no, city, country, Pcase\_id ).

1 NF:

There is no multivalued attribute.

( prisoner\_id, prisoner\_name, age, house\_no, road\_no, city, country, Pcase\_id ).

2NF:

1. prisoner\_id, prisoner\_name, age, house\_no, road\_no, city, country.
2. Pcase\_id , prisoner\_name.

3NF:

1. prisoner\_id, prisoner\_name
2. age, house\_no, road\_no, city, country.
3. Pcase\_id ,prisoner\_name.

### **Table Creation :**

1. prisoner\_id, prisoner\_name, **address\_id**, **Pcase\_id**.
2. age, house\_no, road\_no, city, country, address\_id
3. Pcase\_id ,prisoner\_name.

UNF:

belong to (Pcase\_id, prisoner\_name, case\_id, case\_name).

1NF:

There is no multivalued attribute.

(Pcase\_id, prisoner\_name, case\_id, case\_name).

2NF:

1. Pcase\_id, prisoner\_name.

2. case\_id, case\_name.

3NF:

There is no transitive dependency.

1. Pcase\_id, prisoner\_name.

2. case\_id, case\_name.

### **Table Creation :**

1. Pcase\_id, prisoner\_name.

2. case\_id, case\_name.

3. Pcase\_id , case\_id .

UNF:

need to (user\_name, pass\_word, officer\_id, officer\_name, title, phone\_no ).

1NF:

There is no multivalued attribute.

(user\_name, pass\_word, officer\_id, officer\_name, title, phone\_no ).

2NF:

1. user\_name, pass\_word .

2. officer\_id , officer\_name, title, phone\_no, user\_name.

3NF:

There is no transitive dependency.

1. user\_name, pass\_word .

2. officer\_id , officer\_name, title, phone\_no, user\_name.

## **Table Creation :**

1. user\_name, pass\_word .

2. officer\_id , officer\_name, title, phone\_no, user\_name .

3. user\_name, officer\_id .

UNF:

has ( section\_id, section\_name, officer\_id , officer\_name, title, phone\_no, user\_name).

1NF:

There is no multivalued attribute .

( section\_id, section\_name, officer\_id , officer\_name, title, phone\_no, user\_name) .

2NF:

1. section\_id, section\_name .

2. officer\_id , officer\_name, title, phone\_no, user\_name .

3NF:

There is no transitive dependency .

1. section\_id, section\_name .

2. officer\_id , officer\_name, title, phone\_no, user\_name .

### **Table Creation :**

1. section\_id, section\_name .

2. officer\_id , officer\_name, title, phone\_no, user\_name, **section\_id** .

UNF:

have taken (prisoner\_id , prisoner\_name, age ,house\_no, road\_no, city, country, numoftime)

1NF:

There is no multivalued attribute.

( prisoner\_id , prisoner\_name, age ,house\_no, road\_no, city, country,numoftime )

2NF:

1. prisoner\_id , prisoner\_name, age ,house\_no, road\_no, city, country.

2. Prisoner\_id, prisoner\_name, numoftime.

3NF:

1. prisoner\_id , prisoner\_name, age .

2. house\_no, road\_no, city, country.

3. Prisoner\_id, prisoner\_name, numoftime.

## **Table Creation :**

1. prisoner\_id , prisoner\_name, age .

2. address\_id, house\_no, road\_no, city, country.

3. .Prisoner\_id, prisoner\_name, numoftime, food\_id.

4. **prisoner\_id, food\_id**.

UNF :

Receive(prisoner\_id, prisoner\_name, age ,house\_no, road\_no, city, country, cricket, badminton).

1NF:

There is no multivalued attribute.

(prisoner\_id , prisoner\_name, age ,house\_no, road\_no, city, country, cricket, badminton).

2NF:

1.prisoner\_id , prisoner\_name, age ,house\_no, road\_no, city, country

2.cricket, badminton, prisoner\_id, prisoner\_name.

3NF:

1. prisoner\_id , prisoner\_name, age

2.house\_no, road\_no, city, country

3. cricket, badminton, prisoner\_id, prisoner\_name.

**Table creation :**

1. prisoner\_id , prisoner\_name, age, e\_id ,address\_id

2.address\_id,house\_no, road\_no, city, country

3. cricket, badminton, prisoner\_id, prisoner\_name, e\_id .

## SCHEMA DIAGRAM :



## **Final Table Creation:**

1. prisoner\_id , prisoner\_name , age, **address\_id**;
2. address\_id, house\_no, road\_no, city, country;
3. section\_id , section\_name;
4. **prisoner\_id, section\_id**;
5. visitor\_id , visitor\_name ;
6. prisoner\_id , prisoner\_name, **address\_id**, **Pcase\_id** ;
7. Pcase\_id, prisoner\_name;
8. officer\_id, officer\_name, title, phone\_no, user\_name, **section\_id**;
9. **prisoner\_id, visitor\_id**;
10. case\_id, case\_name;
11. **Pcase\_id, case\_id**;
12. user\_name, pass-word ;
13. **user\_name, officer\_id**;
14. prisoner\_id, prisoner\_name, numOftime, food\_id;
15. **prisoner\_id , food\_id**;
16. prisoner\_id, prisoner\_name, age, **e\_id**, **address\_id**;
17. cricket , badminton, prisoner\_id, prisoner\_name, **e\_id**;

## Table Creation Query and Screenshots:

Create user: create user Prison Identified by prisoner;

The screenshot shows the Oracle SQL Developer interface. In the top navigation bar, there is a dropdown menu with 'Autocommit' checked and 'Display' set to 30. Below the menu, a SQL command is entered: 'create user Prison Identified by prisoner;'. At the bottom of the interface, there is a navigation bar with tabs: 'Results' (which is selected), 'Explain', 'Describe', 'Saved SQL', and 'History'.

User created.

0.32 seconds

1.create table Prisoner (prisoner\_id varchar2(20) primary key,prisoner\_name varchar2(20),age Number(3),address\_id varchar2(20));

The screenshot shows the Oracle Database Express Edition interface. The title bar indicates it is running on 127.0.0.1:8080/apex/f. The main window shows a SQL command window with the following content:  
User: SCOTT  
Home > SQL > SQL Commands  
SQL Commands window:  
Autocommit is checked, Display is set to 10.  
The SQL command entered is: 'create table Prisoner (prisoner\_id varchar2(20) primary key,prisoner\_name varchar2(20),age Number(3),address\_id varchar2(20));'  
Below the command, the results are shown: 'Table created.' and '1.30 seconds'.  
At the bottom of the interface, there is a status bar with the text 'Application Express 2.1.0.0.39' and 'Copyright © 1999, 2006, Oracle. All rights reserved.'

2. create table Address (address\_id varchar2(20) primary key, house\_no varchar2(10),Road\_no varchar2(10),city varchar2(10) Not NULL, Country varchar2(15));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL command entered is:

```
create table Address (address_id varchar2(20) primary key, house_no varchar2(10),Road_no varchar2(10),city varchar2(10) Not NULL, Country varchar2(15));
```

The results show:

- Table created.
- 0.08 seconds

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL command entered is:

```
alter table Prisoner add constraint ai foreign key(address_id) references Address(address_id);
```

The results show:

- Table altered.
- 0.72 seconds

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

3.create table Section (section\_id varchar2(20) primary key, section\_name varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL editor contains the following SQL statement:

```
. create table Section (section_id varchar2(20) primary key, section_name varchar2(20));
```

The results pane shows the output:

```
Table created.
```

Execution details:

- Time: 0.44 seconds

System status:

- Language: en-us
- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.

4. create table Foreign\_key(prisoner\_id varchar2(20) primary key,section\_id varchar2(20) unique);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL editor contains the following SQL statement:

```
create table Foreign_key(prisoner_id varchar2(20) primary key,section_id varchar2(20) unique);
```

The results pane shows the output:

```
Table created.
```

Execution details:

- Time: 0.01 seconds

System status:

- Language: en-us
- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Foreign\_key add constraint c100 foreign key (prisoner\_id) references Prisoner (prisoner\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Foreign_key add constraint c100 foreign key (prisoner_id) references Prisoner (prisoner_id);
```

The results pane shows the output:

```
Table altered.
```

Execution details:

- Time: 0.00 seconds

System status:

- Language: en-us
- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Foreign\_key add constraint c200 foreign key (section\_id) references Section (section\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Foreign_key add constraint c200 foreign key (section_id) references Section (section_id);
```

The results pane shows the output:

```
Table altered.
```

Execution details:

- Time: 0.00 seconds

System status:

- Language: en-us
- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.

5.create table visitor(visitor\_id varchar2(20) primary key,visitor\_name varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command entered is:

```
. create table visitor(visitor_id varchar2(20) primary key,visitor_name varchar2(20));
```

The results pane shows the output:

```
Table created.
```

Execution time: 0.09 seconds.

Language: en-us

6.create table prisoner\_case (prisoner\_id varchar2(20) primary key, prisoner\_name varchar2(20),address\_id varchar2(20), Pcase\_id varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command entered is:

```
create table prisoner_case (prisoner_id varchar2(20) primary key, prisoner_name varchar2(20),address_id varchar2(20), Pcase_id varchar2(20));
```

The results pane shows the output:

```
Table created.
```

Execution time: 0.00 seconds.

Language: en-us

Alter table prisoner\_case add constraint pc foreign key (address\_id) references Address (address\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
Alter table prisoner_case add constraint pc foreign key (address_id) references Address (address_id);
```

The output shows the message "Table altered." and a execution time of "0.01 seconds". The interface includes a toolbar with various icons, a sidebar with navigation links, and a bottom status bar indicating "Application Express 2.1.0.00.39" and "Copyright © 1999, 2006, Oracle. All rights reserved".

Alter table prisoner\_case add constraint pc100 foreign key (Pcase\_id) references Pcase (Pcase\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
Alter table prisoner_case add constraint pc100 foreign key (Pcase_id) references Pcase (Pcase_id);
```

The output shows the message "Table altered." and a execution time of "0.00 seconds". The interface includes a toolbar with various icons, a sidebar with navigation links, and a bottom status bar indicating "Application Express 2.1.0.00.39" and "Copyright © 1999, 2006, Oracle. All rights reserved".

7. create table Pcase (Pcase\_id varchar2(20) primary key, prisoner\_name varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. In the central workspace, the SQL command `create table Pcase (Pcase_id varchar2(20) primary key, prisoner_name varchar2(20));` is entered. Below the command, the results show "Table created." and a duration of "0.20 seconds". The interface includes a toolbar at the top with various icons, a sidebar on the left with navigation links, and a bottom taskbar.

8. create table Officer(officer\_id varchar2(20) primary key,officer\_name varchar2(20),title varchar2(20),phone\_no Number(11),user\_name varchar2(20),section\_id varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. In the central workspace, the SQL command `create table Officer(officer_id varchar2(20) primary key,officer_name varchar2(20),title varchar2(20),phone_no Number(11),user_name varchar2(20),section_id varchar2(20));` is entered. Below the command, the results show "Table created." and a duration of "0.00 seconds". The interface includes a toolbar at the top with various icons, a sidebar on the left with navigation links, and a bottom taskbar.

Alter table Officer add constraint o1 foreign key(section\_id) references Section(section\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL editor contains the command:

```
Alter table Officer add constraint o1 foreign key(section_id) references Section(section_id);
```

The results pane shows the output:

```
Table altered.
```

Execution details:

- Time: 0.01 seconds
- Language: en-us

System status at the bottom right:

- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.
- Date: 4/7/2020
- Time: 7:20 PM

9. create table Prisoner\_Foreign(prisoner\_id varchar2(20) primary key,visitor\_id varchar2(20) unique);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL editor contains the command:

```
create table Prisoner_Foreign(prisoner_id varchar2(20) primary key,visitor_id varchar2(20) unique);
```

The results pane shows the output:

```
Table created.
```

Execution details:

- Time: 0.00 seconds
- Language: en-us

System status at the bottom right:

- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.
- Date: 4/7/2020
- Time: 7:21 PM

Alter table Prisoner\_Foreign add constraint F1 foreign key (prisoner\_id) references Prisoner(prisoner\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
Alter table Prisoner_Foreign add constraint F1 foreign key (prisoner_id) references Prisoner(prisoner_id);
```

The results show:

- Table altered.
- 0.02 seconds

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Prisoner\_Foreign add constraint F100 foreign key (visitor\_id) references visitor(visitor\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
Alter table Prisoner_Foreign add constraint F100 foreign key (visitor_id) references visitor(visitor_id);
```

The results show:

- Table altered.
- 0.08 seconds

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

10. create table Case(case\_id varchar2(20) primary key,case\_name varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command entered is:

```
create table Case(case_id varchar2(20) primary key,case_name varchar2(20));
```

The results pane shows the output:

```
Table created.
```

Execution details:

- Time: 0.01 seconds
- Language: en-us

System status at the bottom right:

- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.
- 7:26 PM 4/7/2020

11. create table Pcase\_Foreign(Pcase\_id varchar(20) primary key,case\_id varchar2(20) unique);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL command entered is:

```
create table Pcase_Foreign(Pcase_id varchar(20) primary key,case_id varchar2(20) unique);
```

The results pane shows the output:

```
Table created.
```

Execution details:

- Time: 0.01 seconds
- Language: en-us

System status at the bottom right:

- Application Express 2.1.0.00.39
- Copyright © 1999, 2006, Oracle. All rights reserved.
- 7:27 PM 4/7/2020

Alter table Pcase\_Foreign add constraint P100 foreign key (Pcase\_id) references Pcase (Pcase\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Pcase_Foreign add constraint P100 foreign key (Pcase_id) references Pcase (Pcase_id);
```

The command is run, and the output shows:

```
Table altered.
```

Execution time: 0.00 seconds.

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Pcase\_Foreign add constraint P50 foreign key (case\_id) references case (case\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Pcase_Foreign add constraint P50 foreign key (case_id) references case (case_id);
```

The command is run, and the output shows:

```
Table altered.
```

Execution time: 0.00 seconds.

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

12. create table Account(user\_name varchar2(20) primary key,pass\_word varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
create table Account(user_name varchar2(20) primary key,pass_word varchar2(20));
```

The results pane shows the output:

```
Table created.
```

Execution time: 0.03 seconds.

Application Express 2.1 0 00 39  
Copyright © 1999, 2006, Oracle. All rights reserved.

13. create table Account\_foreign(user\_name varchar2(20) primary key,officer\_id varchar2(20) unique);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
create table Account_foreign(user_name varchar2(20) primary key,officer_id varchar2(20) unique);
```

The results pane shows the output:

```
Table created.
```

Execution time: 0.00 seconds.

Application Express 2.1 0 00 39  
Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Account\_Foreign add constraint a50 foreign key (user\_name) references Account (user\_name);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Account_Foreign add constraint a50 foreign key (user_name) references Account (user_name);
```

The command is executed successfully, resulting in the message "Table altered." and a duration of "0.02 seconds". The interface includes a toolbar at the top with various icons, a navigation sidebar on the left, and a status bar at the bottom indicating the application version (Application Express 2.1.0.00.39) and copyright information.

Alter table Account\_Foreign add constraint a100 foreign key (officer\_id) references officer (officer\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Account_Foreign add constraint a100 foreign key (officer_id) references officer (officer_id);
```

The command is executed successfully, resulting in the message "Table altered." and a duration of "0.00 seconds". The interface includes a toolbar at the top with various icons, a navigation sidebar on the left, and a status bar at the bottom indicating the application version (Application Express 2.1.0.00.39) and copyright information.

14. create table Food(food\_id varchar2(20) primary key,prisoner\_id varchar2(20),prisoner\_name varchar2(20),numberoftime Number(3));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
create table Food(food_id varchar2(20) primary key,prisoner_id varchar2(20),prisoner_name varchar2(28),numberoftime Number(3));
```

The results pane shows the output:

```
Table created.
```

Execution time: 0.17 seconds.

Application Express 2.1.0.0.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

15. create table Food\_Foreign(prisoner\_id varchar2(20) primary key,food\_id varchar2(20) unique);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
create table Food_Foreign(prisoner_id varchar2(20) primary key,food_id varchar2(20) unique);
```

The results pane shows the output:

```
Table created.
```

Execution time: 0.01 seconds.

Application Express 2.1.0.0.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Food\_Foreign add constraint F50 foreign key (prisoner\_id) references prisoner (prisoner\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is executing an SQL command to add a foreign key constraint to the 'Food\_Foreign' table. The command is:

```
Alter table Food_Foreign add constraint F50 foreign key (prisoner_id) references prisoner (prisoner_id);
```

The results pane shows the message "Table altered." and a duration of "0.00 seconds". The interface includes a toolbar at the top with various icons, a sidebar on the left with navigation links, and a bottom status bar indicating the application version (Application Express 2.1.0.00.39), copyright information (Copyright © 1999, 2006, Oracle. All rights reserved.), and the current date and time (4/7/2020, 7:37 PM).

Alter table Food\_Foreign add constraint F40 foreign key (food\_id) references Food (food\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is executing an SQL command to add a foreign key constraint to the 'Food\_Foreign' table. The command is:

```
Alter table Food_Foreign add constraint F40 foreign key (food_id) references Food (food_id);
```

The results pane shows the message "Table altered." and a duration of "0.00 seconds". The interface includes a toolbar at the top with various icons, a sidebar on the left with navigation links, and a bottom status bar indicating the application version (Application Express 2.1.0.00.39), copyright information (Copyright © 1999, 2006, Oracle. All rights reserved.), and the current date and time (4/7/2020, 7:37 PM).

16. create table Entertainment(prisoner\_id varchar2(20),prisoner\_name varchar2(20),e\_id varchar2(20) primary key,cricket varchar2(20),badminton varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
create table Entertainment(prisoner_id varchar2(20),prisoner_name varchar2(20),e_id varchar2(20) primary key,cricket varchar2(20),badminton varchar2(20));
```

The results show:

- Table created.
- 0.02 seconds

At the bottom, the status bar indicates Application Express 2.1.0.00.39 and Copyright © 1999, 2006, Oracle. All rights reserved.

17. create table Entertainment\_Foreign(prisoner\_id varchar2(20) primary key,prisoner\_name varchar2(20),age Number(3),e\_id varchar2(20) ,address\_id varchar2(20));

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is executed:

```
create table Entertainment_Foreign(prisoner_id varchar2(20) primary key,prisoner_name varchar2(20),age Number(3),e_id varchar2(20) ,address_id varchar2(20));
```

The results show:

- Table created.
- 0.00 seconds

At the bottom, the status bar indicates Application Express 2.1.0.00.39 and Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Entertainment\_Foreign add constraint E40 foreign key (e\_id) references Entertainment (e\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Entertainment_Foreign add constraint E40 foreign key (e_id) references Entertainment (e_id);
```

The results pane shows the output:

```
Table altered.
```

Execution details:

- Time: 0.01 seconds

Bottom status bar: Application Express 2.1.0.00.39, Copyright © 1999, 2006, Oracle. All rights reserved.

Alter table Entertainment\_Foreign add constraint E100 foreign key (address\_id) references Address (address\_id);

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is connected as SCOTT. In the SQL editor, the following SQL command is entered:

```
Alter table Entertainment_Foreign add constraint E100 foreign key (address_id) references Address (address_id);
```

The results pane shows the output:

```
Table altered.
```

Execution details:

- Time: 0.00 seconds

Bottom status bar: Application Express 2.1.0.00.39, Copyright © 1999, 2006, Oracle. All rights reserved.

## **Data insertion query and screenshots:**

1. create table Prisoner (prisoner\_id varchar2(20) primary key,prisoner\_name varchar2(20),age Number(3),address\_id varchar2(20));

```
insert into Prisoner values ('1','Juena Noshin','25','1');
```

```
insert into Prisoner values ('2','Kawser Irom Rushee','26','2');
```

```
insert into Prisoner values ('3','Fahad Ahmed','27','3');
```

```
insert into Prisoner values ('4','Thomas Shelby','29','4');
```

```
insert into Prisoner values ('5','Arthur Shelby','33','5');
```

```
1.create table Prisoner (prisoner_id varchar2(20) primary key,prisoner_name varchar2(20),age Number(3),address_id varchar2(20));
insert into Prisoner values ('1','Juena Noshin','25','1');
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

2.create table Address (address\_id varchar2(20) primary key, house\_no varchar2(10),Road\_no varchar2(10),city varchar2(10) Not NULL, Country varchar2(15));

```
alter table Prisoner add constraint ai foreign key(address_id) references Address(address_id);
```

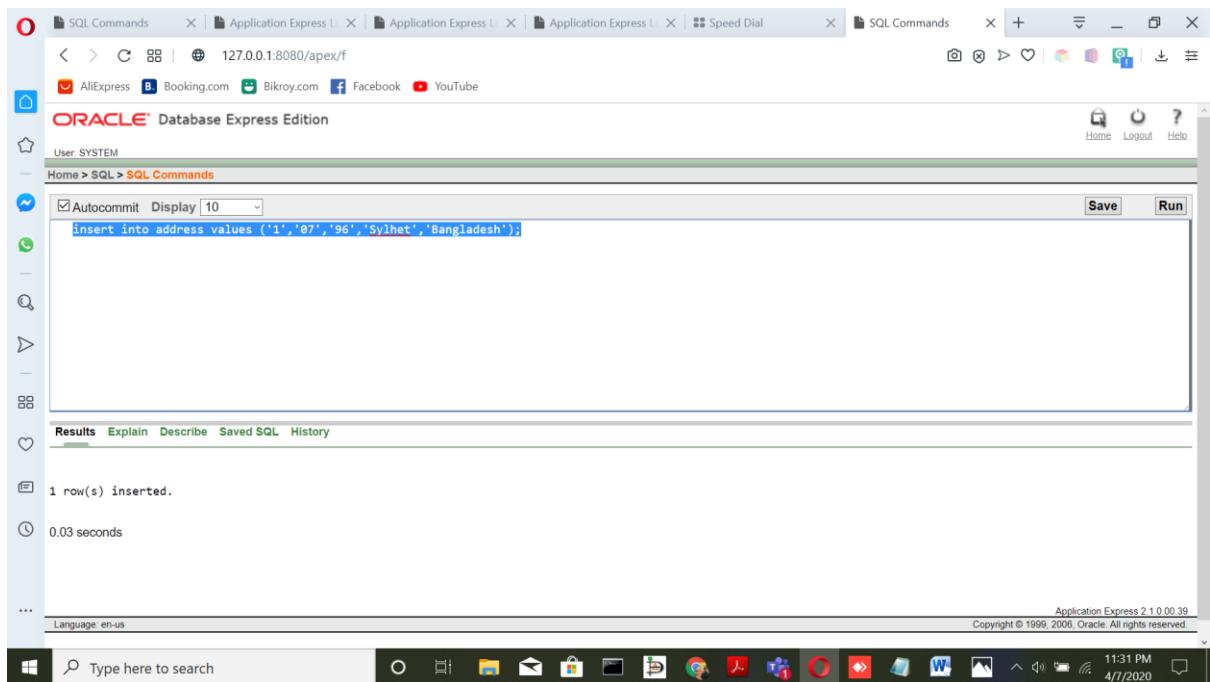
```
insert into address values ('1','07','96','Sylhet','Bangladesh');
```

```
insert into address values ('2','17','16','Dhaka','Bangladesh');
```

```
insert into address values ('3','45','02','London','United Kingdom');
```

```
insert into address values ('4','177','01','Birmingham','United Kingdom');
```

```
insert into address values ('5','177','01','Birmingham','United Kingdom');
```



3.create table Section (section\_id varchar2(20) primary key, section\_name varchar2(20));

insert into Section values ('1','Alpha');

insert into Section values ('2','Beta');

insert into Section values ('3','Gama');

insert into Section values ('4','Delta');

insert into Section values ('5','Pi');

```
insert into Section values ('5','Pi');
```

```
4.create table Foreign_key(prisoner_id varchar2(20) primary key,section_id varchar2(20) unique);
Alter table Foreign_key add constraint c100 foreign key (prisoner_id) references Prisoner(prisoner_id);
Alter table Foreign_key add constraint c200 foreign key (section_id) references Section(section_id);
insert into Foreign_key values ('1','1');
insert into Foreign_key values ('2','2');
insert into Foreign_key values ('3','3');
insert into Foreign_key values ('4','4');
insert into Foreign_key values ('5','5');

5.create table visitor(visitor_id varchar2(20) primary key,visitor_name varchar2(50));
insert into visitor values ('1','Islam Vai');
insert into visitor values ('2','Salam De Costa');
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

```
4.create table Foreign_key(prisoner_id varchar2(20) primary key,section_id varchar2(20) unique);

Alter table Foreign_key add constraint c100 foreign key (prisoner_id) references Prisoner(prisoner_id);

Alter table Foreign_key add constraint c200 foreign key (section_id) references Section(section_id);

insert into Foreign_key values ('1','1');

insert into Foreign_key values ('2','2');

insert into Foreign_key values ('3','3');

insert into Foreign_key values ('4','4');

insert into Foreign_key values ('5','5');
```

```
insert into foreign_key values ('4','4');
insert into Foreign key values ('5','5');
```

```
5.create table visitor(visitor_id varchar2(20) :
insert into visitor values ('1','Islam Vai');
insert into visitor values ('2','Salam De Cost
insert into visitor values ('3','MD. Ashikur R
insert into visitor values ('4','Sheldon Coope
insert into visitor values ('5','Steve Austin'
```

```
6.create table prisoner_case (prisoner_id varch
Alter table prisoner_case add constraint pc
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

```
5.create table visitor(visitor_id varchar2(20) primary key,visitor_name varchar2(20));
insert into visitor values ('1','Islam Vai');

insert into visitor values ('2','Salam De Costa');

insert into visitor values ('3','MD. Ashikur Rahman');

insert into visitor values ('4','Sheldon Cooper');

insert into visitor values ('5','Steve Austin');
```

```
insert into visitor values ('5','Steve Austin');

6.create table prisoner_case (prisoner_id varchar2(20) p
    Alter table prisoner_case add constraint pc foreign
    Alter table prisoner_case add constraint pc100 foreig

7. create table Pcase (Pcase_id varchar2(20) primary key

8.create table Officer(officer_id varchar2(20) primary k
    Alter table Officer add constraint o1 foreign key(sect

9. create table Prisoner_Foreign(prisoner_id varchar2(20)
    Alter table Prisoner_Foreign add constraint F1 foreig
    Alter table Prisoner_Foreign add constraint F100 fore
    insert into Prisoner_Foreign values ('1','1');
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

```
6.create table prisoner_case (prisoner_id varchar2(20) primary key, prisoner_name
varchar2(20),address_id varchar2(20), Pcase_id varchar2(20));
```

```
Alter table prisoner_case add constraint pc foreign key (address_id) references Address
(address_id);
```

```
Alter table prisoner_case add constraint pc100 foreign key (Pcase_id) references Pcase (Pcase_id);
```

```
insert into prisoner_case values ('1','Juena Noshin','1','1');
```

```
insert into prisoner_case values ('2','Kawser Irom Rushee','2','2');
```

```
insert into prisoner_case values ('3','Fahad Ahmed','3','3');
```

```
insert into prisoner_case values ('4','Thomas Shelby','4','4');
```

```
insert into prisoner_case values ('5','Arthur Shelby','5','5');
```

```
insert into prisoner_case values ('4','Thomas Shelby','4','4');
insert into prisoner_case values ('5','Arthur Shelby','5','5');

7. create table Pcase (Pcase_id varchar2(20) primary key, prisoner_name
insert into Pcase values ('1','Juena Noshin');
insert into Pcase values ('2','Kawser Irom Rushee');
insert into Pcase values ('3','Fahad Ahmed');
insert into Pcase Values ('4','Thomas Shelby');
insert into Pcase Values ('5','Arthur Shelby');

8.create table Officer(officer_id varchar2(20) primary key,officer_name
Alter table Officer add constraint o1 foreign key(section_id) referen

9. create table Prisoner_Foreign(prisoner_id varchar2(20) primary key,v
Alter table Prisoner_Foreign add constraint F1 foreign key (prisoner
Alter table Prisoner_Foreign add constraint F100 foreign key (visito
insert into Prisoner_Foreign values ('1','1');
insert into Prisoner_Foreign values ('2','2');
insert into Prisoner_Foreign values ('3','3');
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

```
7. create table Pcase (Pcase_id varchar2(20) primary key, prisoner_name varchar2(20));
insert into Pcase values ('1','Juena Noshin');

insert into Pcase values ('2','Kawser Irom Rushee');

insert into Pcase values ('3','Fahad Ahmed');

insert into Pcase Values ('4','Thomas Shelby');

insert into Pcase Values ('5','Arthur Shelby');
```

The screenshot shows the Oracle Database Express Edition SQL Commands interface. In the SQL editor, the following SQL statement is entered:

```
insert into Pcase values ('1','Juena Noshin');
```

The results pane shows the output of the query:

```
1 row(s) inserted.
```

Execution time: 0.02 seconds

Language: en-us

8.create table Officer(officer\_id varchar2(20) primary key,officer\_name varchar2(20),title varchar2(20),phone\_no Number(11),user\_name varchar2(20),section\_id varchar2(20));

Alter table Officer add constraint o1 foreign key(section\_id) references Section(section\_id);

insert into Officer values ('1','Samir','Warden','01715244611','Sammy','1');

insert into Officer values ('2','Dipro','Warden','01860420551','Inferno','2');

insert into Officer values ('3','Islam','Inspector','01612451123','Vaijan','3');

insert into Officer values ('4','Rezwan','Ast. Inspector','01520420551','Deep','4');

insert into Officer values ('5','Dante','Superintendent','01711760819','Virgil','5');

```
insert into Officer values ('5','Dante','Superintendent','01711760819','Virgil','5');
```

9. create table Prisoner\_Foreign(prisoner\_id varchar2(20) primary key,visitor\_id varchar2(20))  
 Alter table Prisoner\_Foreign add constraint F1 foreign key (prisoner\_id) references Prisoner(prisoner\_id)  
 Alter table Prisoner\_Foreign add constraint F100 foreign key (visitor\_id) references visitor(visitor\_id)  
 insert into Prisoner\_Foreign values ('1','1');  
 insert into Prisoner\_Foreign values ('2','2');  
 insert into Prisoner\_Foreign values ('3','3');

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

9. create table Prisoner\_Foreign(prisoner\_id varchar2(20) primary key,visitor\_id varchar2(20) unique);

```
Alter table Prisoner_Foreign add constraint F1 foreign key (prisoner_id) references  
Prisoner(prisoner_id);
```

```
Alter table Prisoner_Foreign add constraint F100 foreign key (visitor_id) references  
visitor(visitor_id);
```

```
insert into Prisoner_Foreign values ('1','1');
```

```
insert into Prisoner_Foreign values ('2','2');
```

```
insert into Prisoner_Foreign values ('3','3');
```

```
insert into Prisoner_Foreign values ('4','4');
```

```
insert into Prisoner_Foreign values ('5','5');
```

```
insert into Prisoner_Foreign values ('5','5');
```

```
10. create table Case(case_id varchar2(20) primary key,ca  
11. create table Pcase_Foreign(Pcase_id varchar(20) prima  
Alter table Pcase_Foreign add constraint P100 foreign  
Alter table Pcase_Foreign add constraint P50 foreign k  
12. create table Account(user_name varchar2(20) primary k
```

---

**Results Explain Describe Saved SQL History**

---

```
1 row(s) inserted.
```

```
10. create table Case(case_id varchar2(20) primary key,case_name varchar2(20));
```

```
insert into Case values ('1','A');
```

```
insert into Case values ('2','B');
```

```
insert into Case values ('3','C');
```

```
insert into Case values ('4','D');
```

```
insert into Case values ('5','E');
```

```
insert into Case values ('5','E');

11. create table Pcase_Foreign(Pcase_id varchar(20) primary key,case_id varchar2(20) unique);
Alter table Pcase_Foreign add constraint P100 foreign key (Pcase_id) references Pcase (Pcase_id);
Alter table Pcase_Foreign add constraint P50 foreign key (case_id) references case (case_id);
insert into Pcase_Foreign values('1','1')
insert into Pcase_Foreign values('2','2')
insert into Pcase_Foreign values('3','3')
insert into Pcase_Foreign values('4','4')
insert into Pcase_Foreign values('5','5')

12. create table Account(user_name varchar2(20) primary key,pass_word varchar2(20))
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

```
11. create table Pcase_Foreign(Pcase_id varchar(20) primary key,case_id varchar2(20) unique);

Alter table Pcase_Foreign add constraint P100 foreign key (Pcase_id) references Pcase (Pcase_id);
Alter table Pcase_Foreign add constraint P50 foreign key (case_id) references case (case_id);
insert into Pcase_Foreign values('1','1')
insert into Pcase_Foreign values('2','2')
insert into Pcase_Foreign values('3','3')
insert into Pcase_Foreign values('4','4')
insert into Pcase_Foreign values('5','5')
```

```
insert into Pcase_Foreign values('5','5')
```

```
12. create table Account(user_name varchar2(20) primary key,pass_word varchar2(20))
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

0.00 seconds

```
12. create table Account(user_name varchar2(20) primary key,pass_word varchar2(20));
```

```
insert into Account values ('Sammy','1234');

insert into Account values ('Inferno','1234');

insert into Account values ('Vaijan','1234');

insert into Account values ('Deep','1234');

insert into Account values ('Virgil','1234');
```

```
insert into Account values ('Virgil','1234');
```

```
13. create table Account_foreign(user_name varchar2(20) primary key,
    Alter table Account_Foreign add constraint a50 foreign key (user
    Alter table Account_Foreign add constraint a100 foreign key (off
    insert into Account_Foreign values ('Sammy','1');
    insert into Account_Foreign values ('Inferno','2');
    insert into Account_Foreign values ('Vaijan','3');
    insert into Account_Foreign values ('Deep','4');
    insert into Account_Foreign values ('Virgil','5');

14. create table Food(food_id varchar2(20) primary key,prisoner_id v

15.create table Food_Foreign(prisoner_id varchar2(20) primary key,fo
    Alter table Food_Foreign add constraint F50 foreign key (prisoner
    Alter table Food_Foreign add constraint F40 foreign key (food_id)
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

```
13. create table Account_foreign(user_name varchar2(20) primary key,officer_id varchar2(20)
unique);
```

```
Alter table Account_Foreign add constraint a50 foreign key (user_name) references Account
(user_name);
```

```
Alter table Account_Foreign add constraint a100 foreign key (officer_id) references officer
(officer_id);
```

```
insert into Account_Foreign values ('Sammy','1');
```

```
insert into Account_Foreign values ('Inferno','2');
```

```
insert into Account_Foreign values ('Vaijan','3');
```

```
insert into Account_Foreign values ('Deep','4');
```

```
insert into Account_Foreign values ('Virgil','5');

----- ----- ----- '----- '----- '
insert into Account_Foreign values ('Vaijan','3');
insert into Account_Foreign values ('Deep','4');
insert into Account_Foreign values ('Virgil','5');

14. create table Food(food_id varchar2(20) primary key,pris

15.create table Food_Foreign(prisoner_id varchar2(20) prima
    Alter table Food_Foreign add constraint F50 foreign key
    Alter table Food_Foreign add constraint F40 foreign key

16. create table Entertainment(prisoner_id varchar2(20),pri

17. create table Entertainment_Foreign(prisoner_id varchar2
    Alter table Entertainment_Foreign add constraint E40 for
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

```
14. create table Food(food_id varchar2(20) primary key,prisoner_id varchar2(20),prisoner_name
varchar2(20),numberoftime Number(3));

insert into Food values('1','1','Juena Noshin','3');

insert into Food values('2','2','Kawser Irom Rushee','2');

insert into Food values('3','3','Fahad Ahmed','3');

insert into Food values('4','4','Thomas Shelby','2');

insert into Food values('5','5','Arthur Shelby','3');
```

```
insert into Food values('4','4','Thomas Shelby','2');
insert into Food values('5','5','Arthur Shelby','3');
```

```
15.create table Food_Foreign(prisoner_id varchar2(20) primary key,
                           food_id varchar2(20) unique);
Alter table Food_Foreign add constraint F50 foreign key
                           prisoner_id references prisoner(prisoner_id);
Alter table Food_Foreign add constraint F40 foreign key
                           food_id references Food(food_id);
insert into Food_Foreign values('1','1');
insert into Food_Foreign values('2','2');
insert into Food_Foreign values('3','3');
insert into Food_Foreign values('4','4');
insert into Food_Foreign values('5','5');
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

```
15.create table Food_Foreign(prisoner_id varchar2(20) primary key,food_id varchar2(20) unique);
```

```
Alter table Food_Foreign add constraint F50 foreign key (prisoner_id) references prisoner(prisoner_id);
```

```
Alter table Food_Foreign add constraint F40 foreign key (food_id) references Food (food_id);
```

```
insert into Food_Foreign values('1','1');
```

```
insert into Food_Foreign values('2','2');
```

```
insert into Food_Foreign values('3','3');
```

```
insert into Food_Foreign values('4','4');
```

```
insert into Food_Foreign values('5','5');
```

```
insert into Food_Foreign values('3','3');
insert into Food_Foreign values('4','4');
insert into Food_Foreign values('5','5');
```

16. create table Entertainment(prisoner\_id varchar2(20),prisoner\_name varchar2(20),e\_id varchar2(20) primary key,cricket varchar2(20),badminton varchar2(20));

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

16. create table Entertainment(prisoner\_id varchar2(20),prisoner\_name varchar2(20),e\_id varchar2(20) primary key,cricket varchar2(20),badminton varchar2(20));

```
insert into Entertainment values('1','Juena Noshin','1','yes','no');
```

```
insert into Entertainment values('2','Kawser Irom Rushee','2','no','yes');
```

```
insert into Entertainment values('3','Fahad Ahmed','3','yes','no');
```

```
insert into Entertainment values('4','Thomas Shelby','4','no','no');
```

```
insert into Entertainment values('5','Arthur Shelby','5','no','yes');
```

```
insert into Entertainment values('1','Juena Noshin','1','yes','no');
insert into Entertainment values('2','Kawser Irom Rushee','2','no','yes');
insert into Entertainment values('3','Fahad Ahmed','3','yes','no');
insert into Entertainment values('4','Thomas Shelby','4','no','no');
insert into Entertainment values('5','Arthur Shelby','5','no','yes');
```

17. create table Entertainment\_Foreign(prisoner\_id varchar2(20) primary key,prisoner\_name varchar2(20),e\_id varchar2(20) primary key,cricket varchar2(20),badminton varchar2(20))

Alter table Entertainment\_Foreign add constraint E40 foreign key (e\_id) references Entertainment(e\_id);

Alter table Entertainment\_Foreign add constraint E100 foreign key (address\_id) references Address(address\_id);

```
insert into Entertainment_Foreign values ('1','Juena Noshin','25','1','1');
insert into Entertainment_Foreign values ('2','Kawser Irom Rushee','26','2','1');
insert into Entertainment_Foreign values ('3','Fahad Ahmed','27','3','3');
insert into Entertainment_Foreign values ('4','Thomas Shelby','29','4','4');
insert into Entertainment_Foreign values ('5','Arthur Shelby','33','5','5');
```

**Results Explain Describe Saved SQL History**

1 row(s) inserted.

17. create table Entertainment\_Foreign(prisoner\_id varchar2(20) primary key,prisoner\_name varchar2(20),age Number(3),e\_id varchar2(20) ,address\_id varchar2(20));

Alter table Entertainment\_Foreign add constraint E40 foreign key (e\_id) references Entertainment (e\_id);

Alter table Entertainment\_Foreign add constraint E100 foreign key (address\_id) references Address (address\_id);

insert into Entertainment\_Foreign values ('1','Juena Noshin','25','1','1');

insert into Entertainment\_Foreign values ('2','Kawser Irom Rushee','26','2','2');

insert into Entertainment\_Foreign values ('3','Fahad Ahmed','27','3','3');

insert into Entertainment\_Foreign values ('4','Thomas Shelby','29','4','4');

insert into Entertainment\_Foreign values ('5','Arthur Shelby','33','5','5');

```
ALTER TABLE Entertainment_Foreign ADD CONSTRAINT E100 FOREIGN KEY (address_id)
    REFERENCES Address (address_id);
insert into Entertainment_Foreign values ('1','Juena Noshin','25','1','1');
insert into Entertainment_Foreign values ('2','Kawser Irom Rushee','26','2','2');
insert into Entertainment_Foreign values ('3','Fahad Ahmed','27','3','3');
insert into Entertainment_Foreign values ('4','Thomas Shelby','29','4','4');
insert into Entertainment_Foreign values ('5','Arthur Shelby','33','5','5');
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

## QUERY WRITING :

### Single row:

1. display the prisoner id,prisoner name for prisoner Thomas shelby

- select prisoner\_id,prisoner\_name from Prisoner where prisoner\_name='Thomas Shelby';

display the prisoner id,prisoner name for prisoner Thomas shelby

`select prisoner_id,prisoner_name from Prisoner where prisoner_name='Thomas Shelby';`

**Results Explain Describe Saved SQL History**

PRIISONER_ID	PRIISONER_NAME
4	Thomas Shelby

2. Concat prisoner id and age and show the length of name for prisoner Fahad Ahmed and display.

- select concat(prisoner\_id,age),length(prisoner\_name) from Prisoner where prisoner\_name='Fahad Ahmed' ;

Concat prisoner id and age and show the length of name for prisoner Fahad Ahmed and display.

`select concat(prisoner_id,age),length(prisoner_name) from Prisoner where prisoner_name='Fahad Ahmed';`

**Results Explain Describe Saved SQL History**

CONCAT(PRIISONER_ID,AGE)	LENGTH(PRIISONER_NAME)
327	11

1 rows returned in 0.00 seconds

[CSV Export](#)

## group function:

1. display prisoner name and average age and group them by names
- select prisoner\_name,avg(age) from Prisoner group by prisoner\_name;

```
select prisoner_name,avg(age) from Prisoner group by prisoner_name
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

PRISONER_NAME	AVG(AGE)
Fahad Ahmed	27
Juena Noshin	25
Kawser Irom Rushee	26
Arthur Shelby	33
Thomas Shelby	29

5 rows returned in 0.03 seconds

[CSV Export](#)

2. display prisoner name and age where age is maximum among the prisoners

- select prisoner\_name,max(age) from Prisoner where prisoner\_name='Arthur Shelby' group by prisoner\_name;

```

display prisoner name and age where age is maximum among the prisoners
-
select prisoner name,max(age) from Prisoner where prisoner name='Arthur Shelby' group by
prisoner name

```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

PRISONER_NAME	MAX(AGE)
Arthur Shelby	33

1 rows returned in 0.01 seconds

[CSV Export](#)

### sub query:

1. display title,user name and whose officer id is smaller than Islams id from the officers table?

- select title,user\_name from Officer where officer\_id <(select officer\_id from Officer where officer\_name='Islam');

```

display title,user name and whose officer id is smaller than Islams id from the officers
table?
-
```

```

select title,user_name from Officer where officer_id <(select officer_id from Officer where
officer_name='Islam')
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

TITLE	USER_NAME
Warden	Sammy
Warden	Inferno

2 rows returned in 0.00 seconds

[CSV Export](#)

2. display officer name,title,user name and whose officer id is smaller than Rezwans id from the officers table?

- select officer\_name,title,user\_name from Officer where officer\_id >(select officer\_id from Officer where officer\_name='Rezwan');

```

display officer name ,title,user name and whose officer id is greater than rezwans id from
the officers table?

- select officer_name,title,user_name from Officer where officer_id >(select officer_id from
Officer where officer_name='Rezwan')

```

**Results** **Explain** **Describe** **Saved SQL** **History**

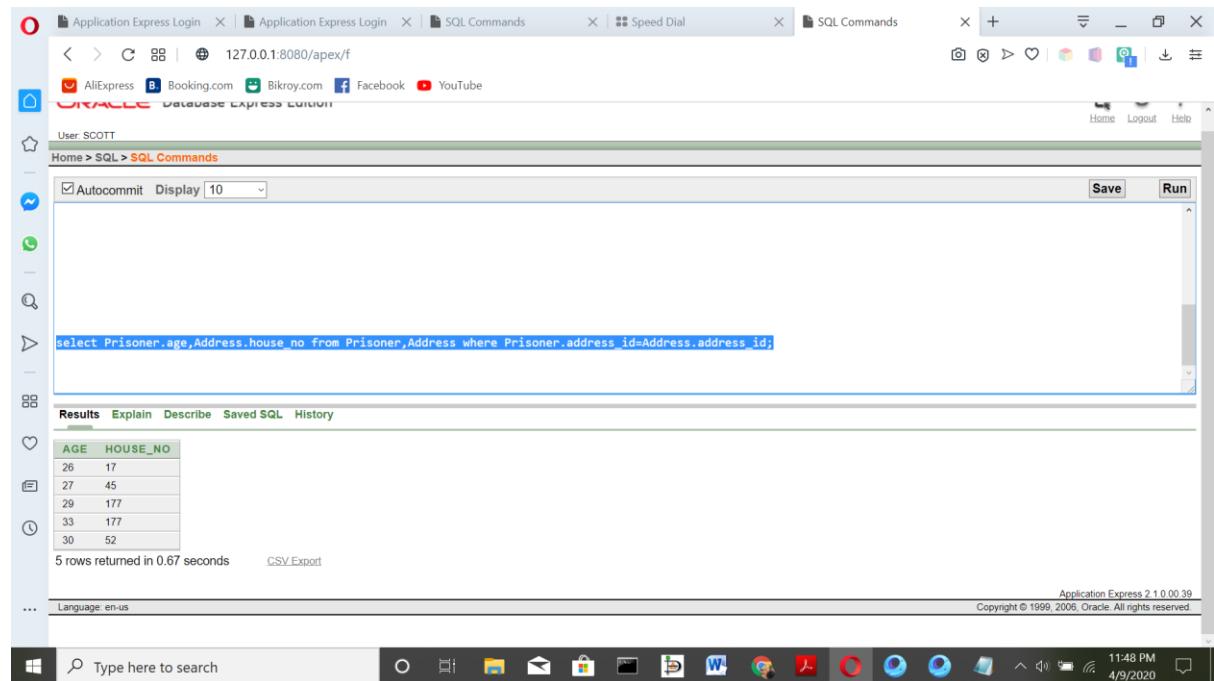
OFFICER_NAME	TITLE	USER_NAME
Dante	Superintendent	Virgil

1 rows returned in 0.00 seconds [CSV Export](#)

## joining:

1. Display the prisoner age and prisoner house no of all the employees .

- select Prisoner.age,Address.house\_no from Prisoner,Address where  
Prisoner.address\_id=Address.address\_id;



The screenshot shows the Oracle Application Express interface. The URL is 127.0.0.1:8080/apex/f. The user is SCOTT. The page title is Home > SQL > SQL Commands. The SQL command entered is:

```
select Prisoner.age,Address.house_no from Prisoner,Address where Prisoner.address_id=Address.address_id;
```

The results show the joined data:

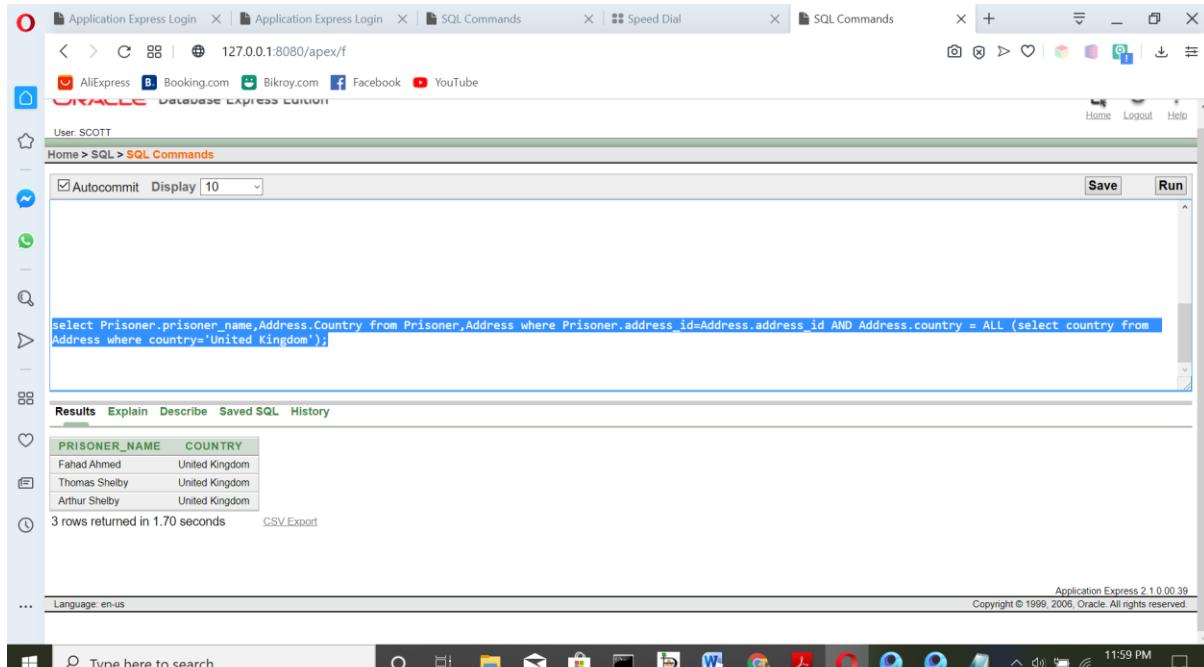
AGE	HOUSE_NO
26	17
27	45
29	177
33	177
30	52

5 rows returned in 0.67 seconds [CSV Export](#)

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

2. Display all the prisoner name and address who lives in United Kingdom.

- select Prisoner.prisoner\_name,Address.Country from Prisoner,Address where Prisoner.address\_id=Address.address\_id AND Address.country = ALL (select country from Address where country='United Kingdom');



The screenshot shows the Oracle Application Express interface. The URL is 127.0.0.1:8080/apex/f?p=10:1:1234567890:::1:::User:SCOTT. The page title is "SQL Commands". The SQL command entered is:

```
select Prisoner.prisoner_name,Address.Country from Prisoner,Address where Prisoner.address_id=Address.address_id AND Address.country = ALL (select country from Address where country='United Kingdom');
```

The results section shows the following data:

PRISONER_NAME	COUNTRY
Fahad Ahmed	United Kingdom
Thomas Shelby	United Kingdom
Arthur Shelby	United Kingdom

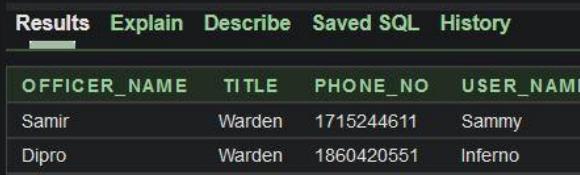
3 rows returned in 1.70 seconds [CSV Export](#)

view:

1. create a view ,office1,that contains the details of officers with title warden.

- create view office1 as select officer\_name,title,phone\_no,user\_name from Officer where title='Warden';

```
create a view ,office1,that contains the details of officers with title warden.  
-  
create view office1 as select officer_name,title,phone_no,user_name from Officer where  
title='Warden';
```



The screenshot shows the Oracle Application Express interface. The URL is 127.0.0.1:8080/apex/f?p=10:1:1234567890:::1:::User:SCOTT. The page title is "SQL Commands". The SQL command entered is:

```
create a view ,office1,that contains the details of officers with title warden.  
-  
create view office1 as select officer_name,title,phone_no,user_name from Officer where  
title='Warden';
```

The results section shows the following data:

OFFICER_NAME	TITLE	PHONE_NO	USER_NAME
Samir	Warden	1715244611	Sammy
Dipro	Warden	1860420551	Inferno

2 rows returned in 0.02 seconds [CSV Export](#)

2. create a view ,prisoner2, that contains the details if prisoners with age greater than 27.

- create view prisoner2 as select prisoner\_name,age from Prisoner where age>'27' ;

```
create a view ,prisoner2, that contains the details if prisoners with age greater than 27

- create view prisoner2 as select prisoner_name,age from Prisoner where age>'27' ;
```

**Results Explain Describe Saved SQL History**

PRISONER_NAME	AGE
Thomas Shelby	29
Arthur Shelby	33

2 rows returned in 0.00 seconds [CSV Export](#)

### **Relational Algebra:**

1. select only those rows of data where city is Birmingham from the address table.

-  $(\sigma_{city="Birmingham"}(Address))$ .

2. project the prisoner name and address id of a prisoner from prisoner\_case table.

-  $\pi_{prisoner\_name, address\_id}(Prisoner\_case)$ .

3. find the name of prisoner where age is 26.

-  $\pi_{prisoner\_name}(\sigma_{age=26}(Prisoner))$ .

4. project the name of officer whose title is Superintendent.

-  $\pi_{officer\_name}(\sigma_{title="Superintendent"}(Title))$ .

5. find the name of all prisoners,age and city whose has an address.

-  $\pi_{prisoner\_name, age, city}(\text{prisoner} \bowtie \text{address})$ .

***Conclusion-Summarize your project findings and propose future work i.e. How do you plan to improve your existing project in future?***

--- This project is just a prototype with many more possible attachments to it. As this an introductory course of database, our skill level is not high enough to build a more complex and more sufficient system to manage a huge facility like prison. But we think it can be done easily with the higher studies applied and more tables and more complexity added to the system. Suppose, we want to add more different kind of sections in the prison with more titled officers, constables, jailors and so on. We can also add solitary unit, isolation unit, medical ward, doctor's office, entertainment room and more. This prison management system is a unique and diverse system which can be upgraded in many ways and by making it more complex and diverse and efficient, we can improve this project in future.