Prison Management System

INTRODUCTION:

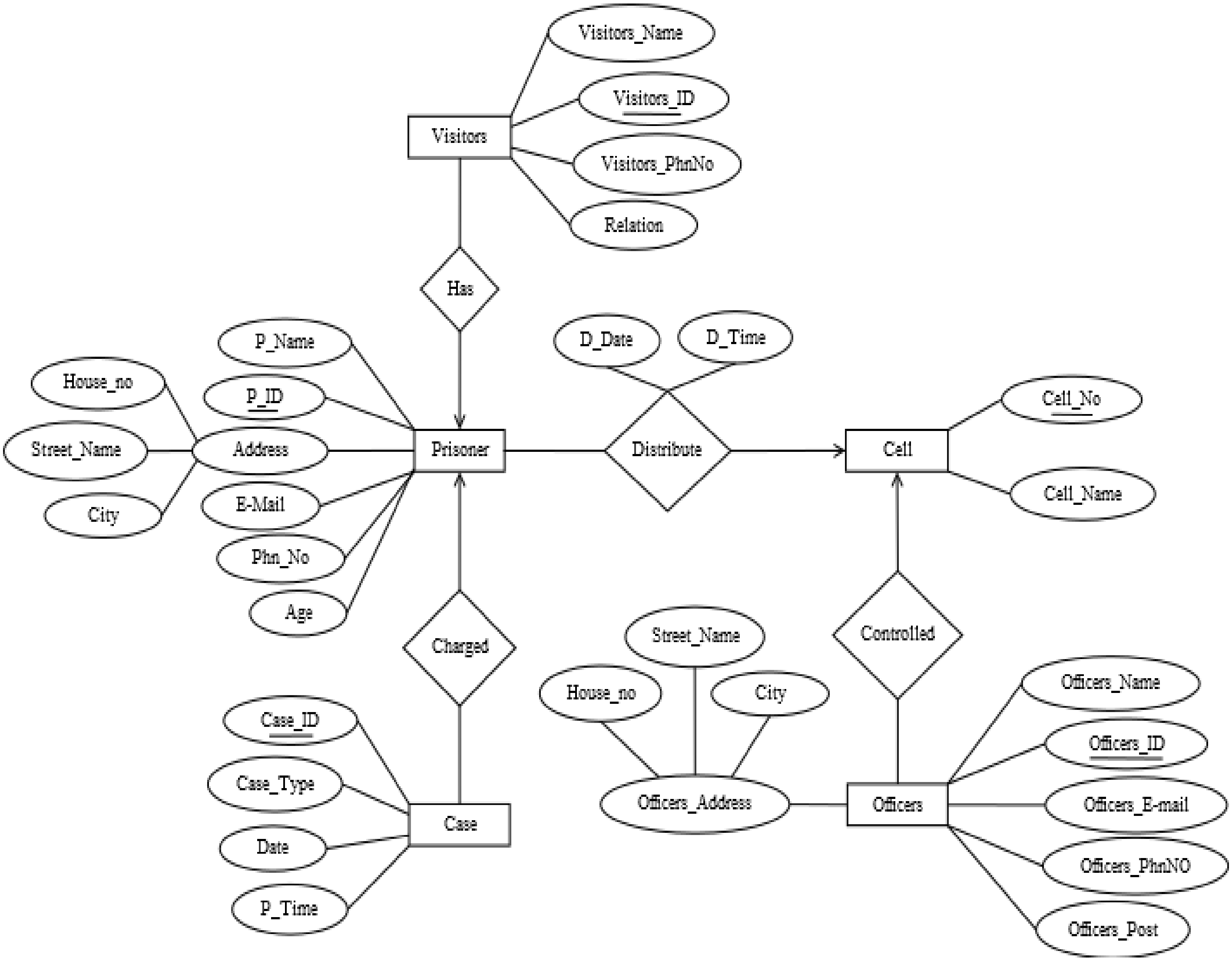
A relational database management system (RDBMS) is a system software for creating and managing databases. The RDBMS provides users and programmers with a systematic way to create, retrieve, update and manage data. A RDBMS makes it possible for end users to create, read, update and delete data in a database.

My project (Prison Management System) was created by the concept of RDBMS.

SCENARIO:

In a “Prison Management System” Prisoners are distributed to a cell. A cell may contain many Prisoners. A prisoner is identified by Prisoner ID. The system also stores Prisoners Name, Age, Address, E-mail, Phone Number. Prisoners address is composed of House Number, Street Name and City. A cell is identified by Cell No. Cell name is also stored. While distributing to a Cell To find the end of punishment, distribution date and time is also stored. Every Prisoner is charged with at least one case. A prisoner may have many cases. A case is identified by Case Id. The system also stores Case Type, Date and Punishment time. A cell is controlled by many officers. To identify an officer the system stores Officers ID along with Officers Name, Address, E-mail, Phone Number and Post. Officers address is composed of House Number, Street Name and City. A prisoner can have many visitors. Visitors can visit one Prisoner at a time. Visitors are identified by Visitor ID. Visitors Name, Phone Number, Relation is also Stored.

ER DIAGRAM:


Visitors_Name
Visitors_ID
Visitors
Visitors_PhnNo
Relation
Has
P_Name
House_no
P_ID
D_Date
D_Time
Cell_No
Street_Name
Address
Prisoner
Distribute
Cell
City
E-Mail
Cell_Name
Phn_No
Age
Charged
Street_Name
Controlled
House_no
City
Officers_Name
Case_ID
Officers_ID
Case_Type
Case
Officers_Address
Officers
Officers_E-mail
Date
Officers_PhnNO
P_Time
Officers_Post

NORMALIZATION:

PRISONERS DISTRIBUTED TO CELL (Many to One)

Unnormalized Form (UNF) :

Distribute (P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City, D_date, D_time, Cell_No, Cell_Name)

1NF (1st Normalized Form) :

There is no multi valued attribute. Relation already in **1NF.**

(P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City, D_date, D_time, Cell_No, Cell_Name)

2NF (2nd Normalized Form) :

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City.
- D_date, D_time.
- Cell_No, Cell_Name.

3NF (3rd Normalized Form):

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age.
- House_No, Street_name, City.
- D_date, D_time.
- Cell_No, Cell_Name.

TABLE CREATION:

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, **Cell_No, D_Id**, **A_Id**.
- A_Id, House_No, Street_name, City.
- D_Id, D_date, D_time.
- Cell_No, Cell_Name.

PRISONERS CHARGED CASE (One to Many)

Unnormalized Form (UNF) :

Charge (P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City, Case_Id, Case_Type, Date, Duration)

1NF (1st Normalized Form) :

There is no multi valued attribute. Relation already in **1NF.**

(P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City, Case_Id, Case_Type, Date, Duration)

2NF (2nd Normalized Form) :

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City.
- Case_Id, Case_Type, Date, Duration.

3NF (3rd Normalized Form):

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age.
- House_No, Street_name, City.
- Case_Id, Case_Type, Date, Duration.

TABLE CREATION:

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, **A_Id**.
- A_Id, House_No, Street_name, City.
- Case_Id, Case_Type, Date, Duration, **P_ID**.

PRISONERS HAS VISITORS (One to Many)

Unnormalized Form (UNF) :

Visitor (P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City, V_Name, V_Id, V_PhnNo, Relation).

1NF (1st Normalized Form) :

There is no multi valued attribute. Relation already in **1NF.**

(P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City, V_Name, V_Id, V_PhnNo, Relation).

2NF (2nd Normalized Form) :

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, House_no, Street_name, City.
- V_Name, V_Id, V_PhnNo, Relation.

3NF (3rd Normalized Form):

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age.
- House_No, Street_name, City.
- V_Name, V_Id, V_PhnNo, Relation.

TABLE CREATION:

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, **A_Id**.
- A_Id, House_No, Street_name, City.
- V_Name, V_Id, V_PhnNo, Relation, **P_ID**.

OFFICERS CONTROL CELL (Many to One)

Unnormalized Form (UNF) :

Control (O_Name, O_Id, O_E-mail, O_PhnNo, O_Post, House_No, Street_name, City, Cell_No, Cell_Name).

1NF (1st Normalized Form) :

There is no multi valued attribute. Relation already in **1NF.**

(O_Name, O_Id, O_E-mail, O_PhnNo, O_Post, House_No, Street_name, City, Cell_No, Cell_Name).

2NF (2nd Normalized Form) :

- O_Name, O_Id, O_E-mail, O_PhnNo, O_Post, House_No, Street_name, City.
- Cell_No, Cell_Name.

3NF (3rd Normalized Form):

- O_Name, O_Id, O_E-mail, O_PhnNo, O_Post.
- House_No, Street_name, City.
- Cell_No, Cell_Name.

TABLE CREATION:

- O_Name, O_Id, O_E-mail, O_PhnNo, O_Post, **Cell_No**, **A_Id1**.
- A_Id1, House_No, Street_name, City.
- Cell_No, Cell_Name.

TEMPORARY TABLES:

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, **Cell_No, D_Id**, **A_Id**.
- A_Id, House_No, Street_name, City.
- D_Id, D_date, D_time.
- Cell_No, Cell_Name.
- ~~P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, **A_Id**.~~
- ~~A_Id, House_No, Street_name, City.~~
- Case_Id, Case_Type, Date, Duration, **P_ID**.
- ~~P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, **A_Id**.~~
- ~~A_Id, House_No, Street_name, City.~~
- V_Name, V_Id, V_PhnNo, Relation, **P_ID**.
- O_Name, O_Id, O_E-mail, O_PhnNo, O_Post, **Cell_No**, **A_Id1**.
- A_Id1, House_No, Street_name, City.
- ~~Cell_No, Cell_Name.~~

FINAL TABLES:

- P_Name, P_ID, P_E-Mail, P_PhnNo, P_Age, **Cell_No, D_Id**, **A_Id**.
- A_Id, House_No, Street_name, City.
- D_Id, D_date, D_time.
- Cell_No, Cell_Name.
- Case_Id, Case_Type, Date, Duration, **P_ID**.
- V_Name, V_Id, V_PhnNo, Relation, **P_ID**.
- O_Name, O_Id, O_E-mail, O_PhnNo, O_Post, **Cell_No**, **A_Id1**.
- A_Id1, House_No, Street_name, City.

SCHEMA DIAGRAM:

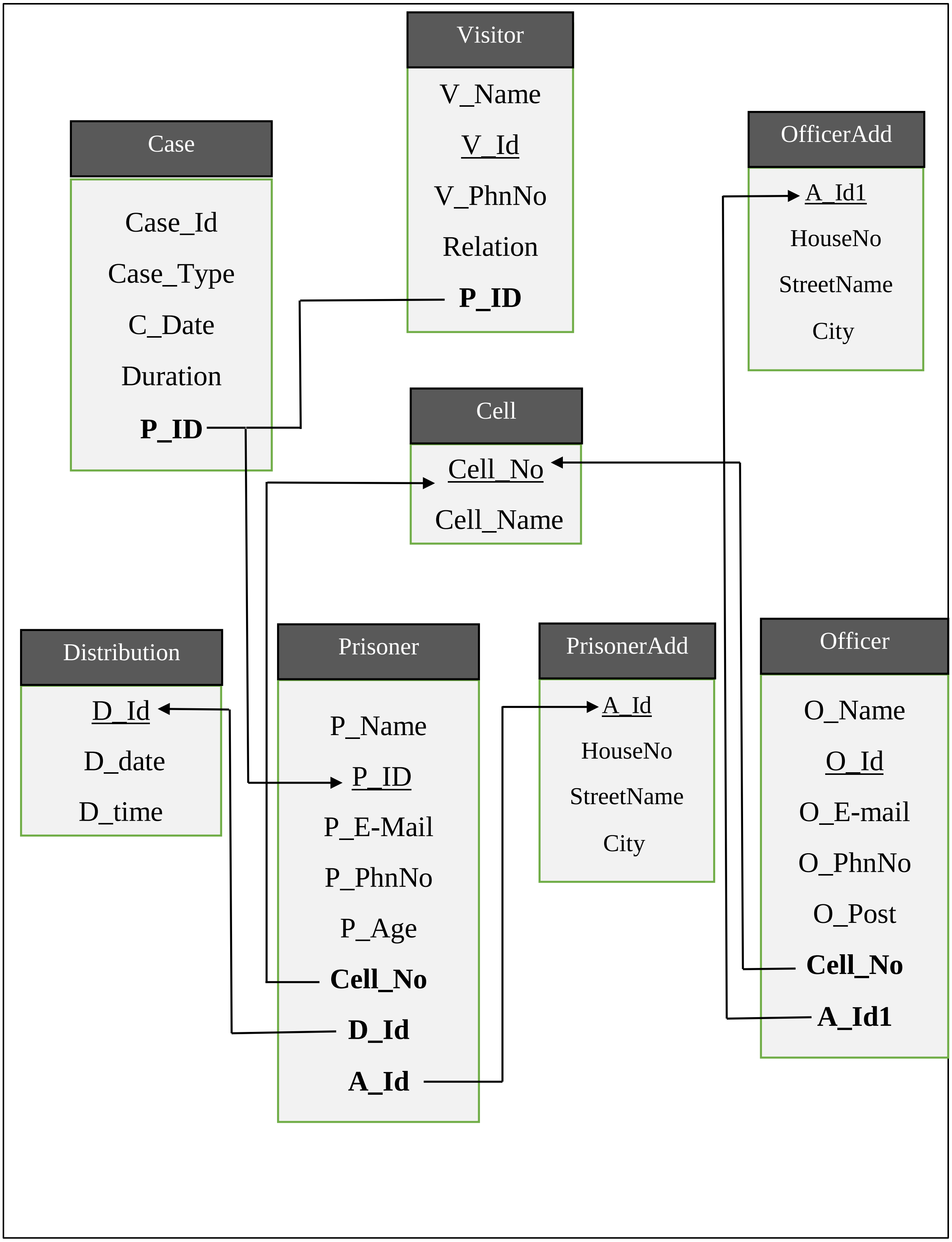
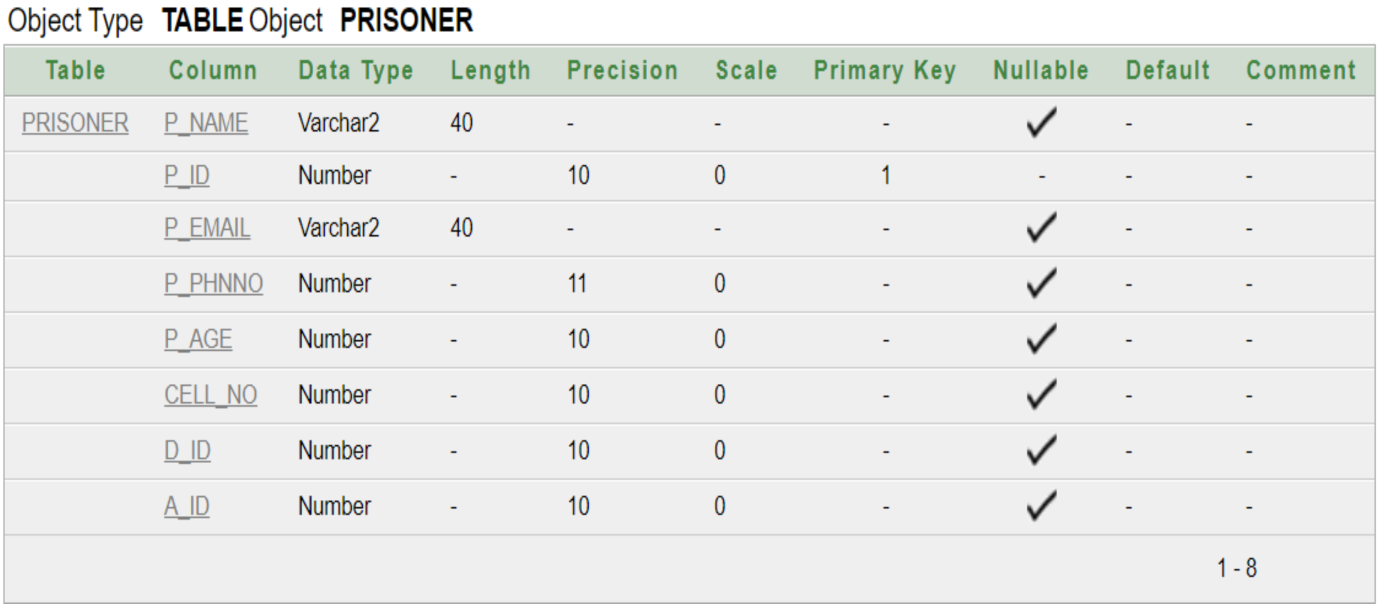

Visitor
V_Name
V_Id
V_PhnNo
Relation
P_ID
Case
Case_Id
Case_Type
C_Date
Duration
P_ID
OfficerAdd
A_Id1
HouseNo
StreetName
City
Cell
Cell_No
Cell_Name
Distribution
D_Id
D_date
D_time
Prisoner
P_Name
P_ID
P_E-Mail
P_PhnNo
P_Age
Cell_No
D_Id
A_Id
PrisonerAdd
A_Id
HouseNo
StreetName
City
Officer
O_Name
O_Id
O_E-mail
O_PhnNo
O_Post
Cell_No
A_Id1

TABLE CREATION:

1. create table Prisoner (P_Name varchar2(40), P_ID number(10)Primary Key, P_Email varchar2(40), P_PhnNo number(11), P_Age number(10), Cell_No number(10), D_ID number(10), A_ID number(10));

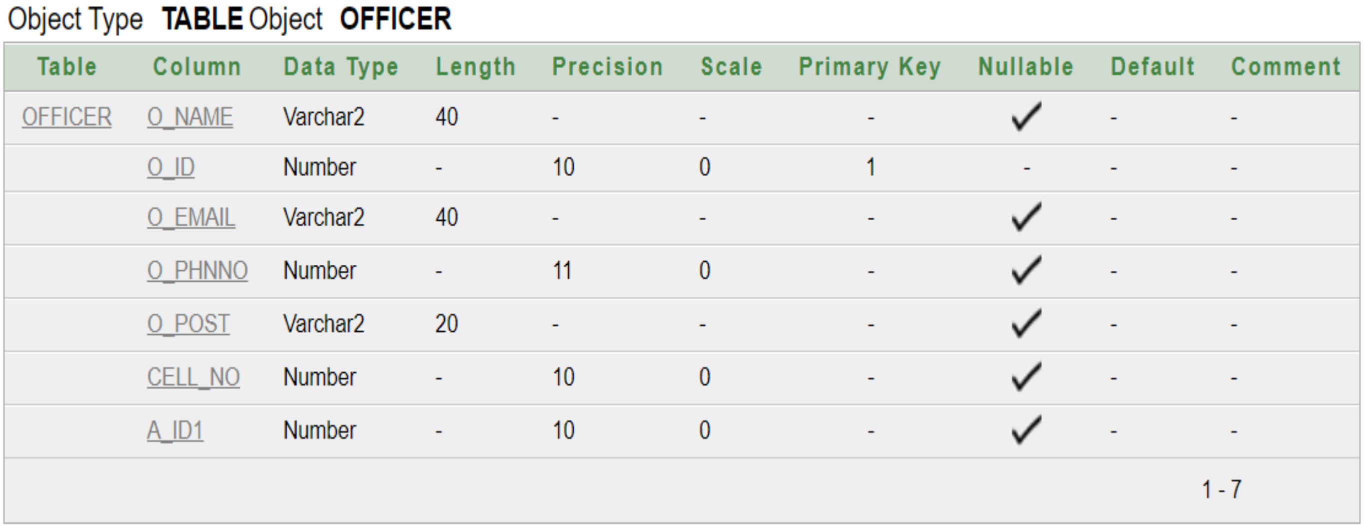


Object Type **TABLE** Object **PRISONER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PRISONER	P_NAME	Varchar2	40	-	-	-	✓	-	-
	P_ID	Number	-	10	0	1	-	-	-
	P_EMAIL	Varchar2	40	-	-	-	✓	-	-
	P_PHNNO	Number	-	11	0	-	✓	-	-
	P_AGE	Number	-	10	0	-	✓	-	-
	CELL_NO	Number	-	10	0	-	✓	-	-
	D_ID	Number	-	10	0	-	✓	-	-
	A_ID	Number	-	10	0	-	✓	-	-

1 - 8

2. Create Table Officer (O_Name varchar2(40), O_ID Number(10)Primary Key, O_Email varchar2(40), O_PhnNo number(11), O_Post varchar2(20), Cell_No number(10), A_ID1 number(10));

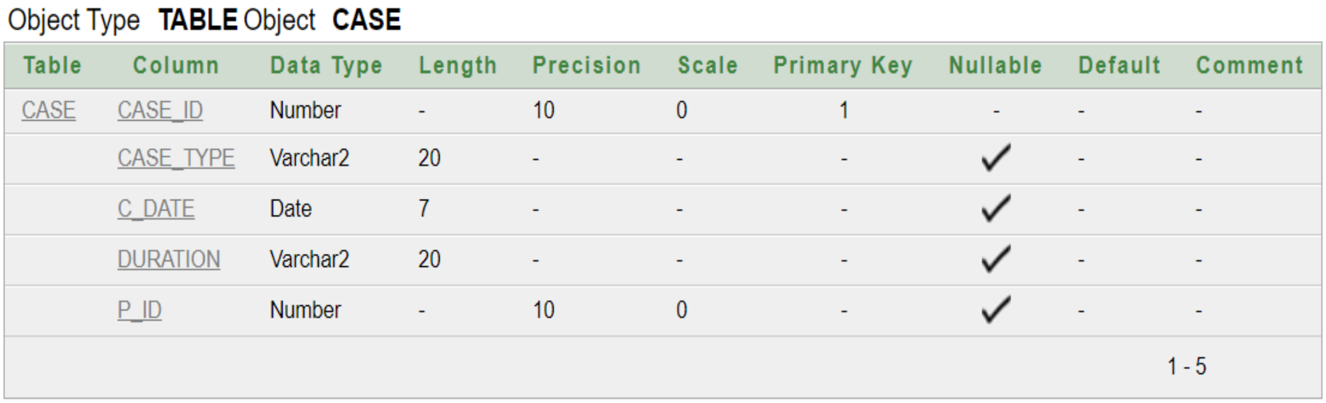


Object Type **TABLE** Object **OFFICER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
OFFICER	O_NAME	Varchar2	40	-	-	-	✓	-	-
	O_ID	Number	-	10	0	1	-	-	-
	O_EMAIL	Varchar2	40	-	-	-	✓	-	-
	O_PHNNO	Number	-	11	0	-	✓	-	-
	O_POST	Varchar2	20	-	-	-	✓	-	-
	CELL_NO	Number	-	10	0	-	✓	-	-
	A_ID1	Number	-	10	0	-	✓	-	-

1 - 7

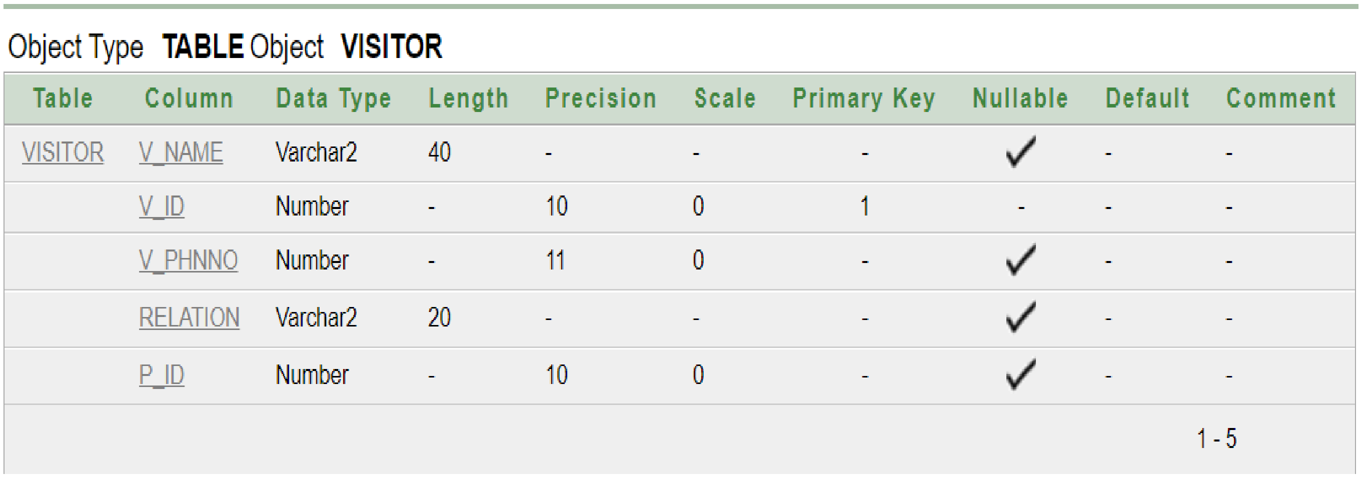
3. Create Table Case (Case_Id number(10)Primary Key, Case_Type varchar2(20), C_Date date, Duration varchar2(20), P_ID number(10));



Object Type **TABLE** Object **CASE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CASE	CASE_ID	Number	-	10	0	1	-	-	-
	CASE_TYPE	Varchar2	20	-	-	-	✓	-	-
	C_DATE	Date	7	-	-	-	✓	-	-
	DURATION	Varchar2	20	-	-	-	✓	-	-
	P_ID	Number	-	10	0	-	✓	-	-
									1 - 5

4. Create Table Visitor(V_Name varchar2(40), V_Id number(10) Primary Key, V_PhnNo number(11), Relation varchar2(20), P_ID number(10));

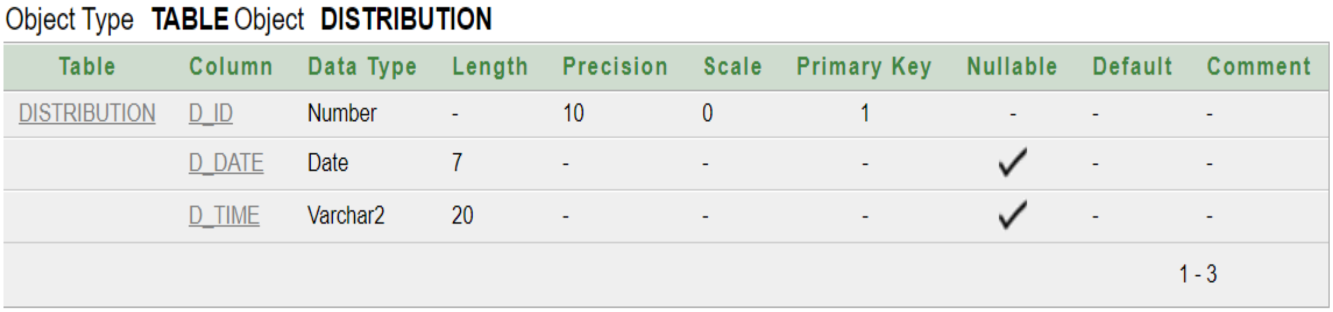


Object Type **TABLE** Object **VISITOR**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
VISITOR	V_NAME	Varchar2	40	-	-	-	✓	-	-
	V_ID	Number	-	10	0	1	-	-	-
	V_PHNNO	Number	-	11	0	-	✓	-	-
	RELATION	Varchar2	20	-	-	-	✓	-	-
	P_ID	Number	-	10	0	-	✓	-	-

1 - 5

5. Create Table Distribution(D_Id number(10) Primary Key, D_Date Date, D_time varchar2(20));

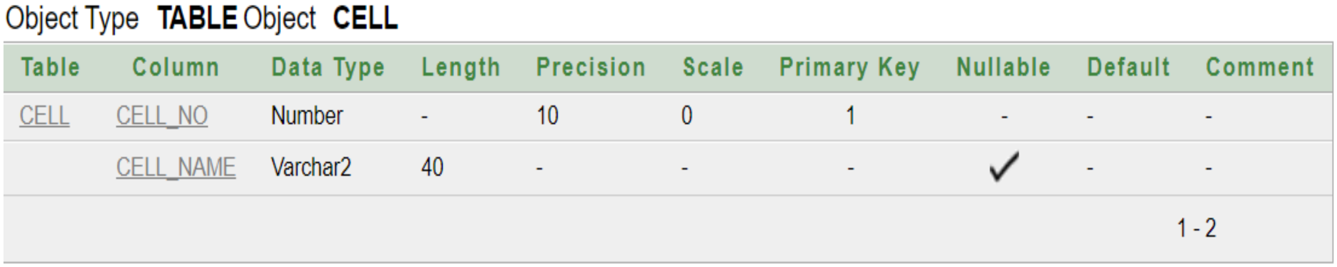


Object Type **TABLE** Object **DISTRIBUTION**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DISTRIBUTION	D_ID	Number	-	10	0	1	-	-	-
	D_DATE	Date	7	-	-	-	✓	-	-
	D_TIME	Varchar2	20	-	-	-	✓	-	-

1 - 3

6. Create Table Cell(Cell_No number(10) Primary Key, Cell_Name varchar2(40));

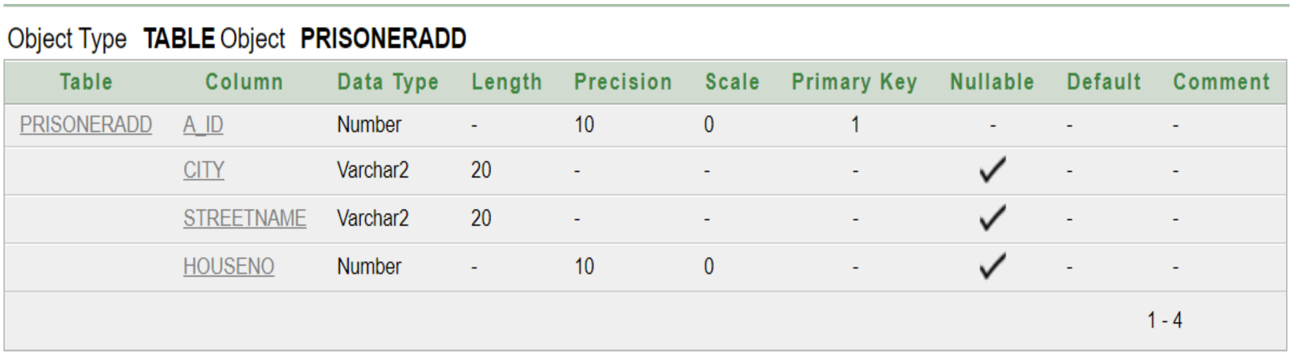


Object Type **TABLE** Object **CELL**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CELL	CELL_NO	Number	-	10	0	1	-	-	-
	CELL_NAME	Varchar2	40	-	-	-	✓	-	-

1 - 2

7. Create table PrisonerAdd (A_Id number (10) Primary Key, City varchar2(20), StreetName varchar2(20), HouseNo number (10));

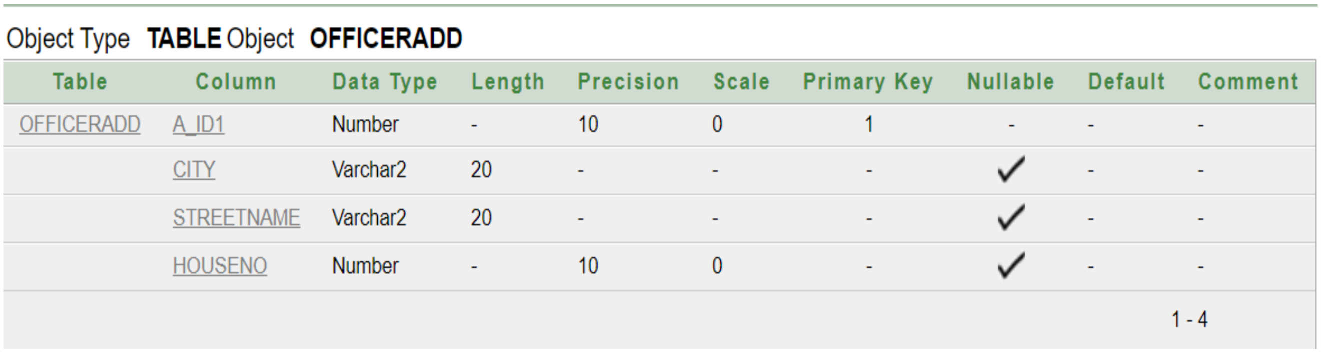


Object Type **TABLE** Object **PRISONERADD**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PRISONERADD	A_ID	Number	-	10	0	1	-	-	-
	CITY	Varchar2	20	-	-	-	✓	-	-
	STREETNAME	Varchar2	20	-	-	-	✓	-	-
	HOUSENO	Number	-	10	0	-	✓	-	-

1 - 4

8. Create table OfficerAdd (A_Id1 number (10) Primary Key, City varchar2(20), StreetName varchar2(20), HouseNo number (10));



Object Type **TABLE** Object **OFFICERADD**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
OFFICERADD	A_ID1	Number	-	10	0	1	-	-	-
	CITY	Varchar2	20	-	-	-	✓	-	-
	STREETNAME	Varchar2	20	-	-	-	✓	-	-
	HOUSENO	Number	-	10	0	-	✓	-	-

1 - 4

CONTRAINTS:

1. Alter table Prisoner Add Constraint FK1 Foreign Key(Cell_No) References Cell(Cell_No);

2. Alter table Prisoner Add Constraint FK2 Foreign Key(D_Id) References Distribution(D_Id);

3. Alter table Prisoner Add Constraint FK3 Foreign Key(A_Id) References PrisonerAdd(A_Id);

4. Alter table Officer Add Constraint FK4 Foreign Key(A_Id1) References OfficerAdd(A_Id1);

5. Alter table Officer Add Constraint FK5 Foreign Key(Cell_No) References Cell(Cell_No);

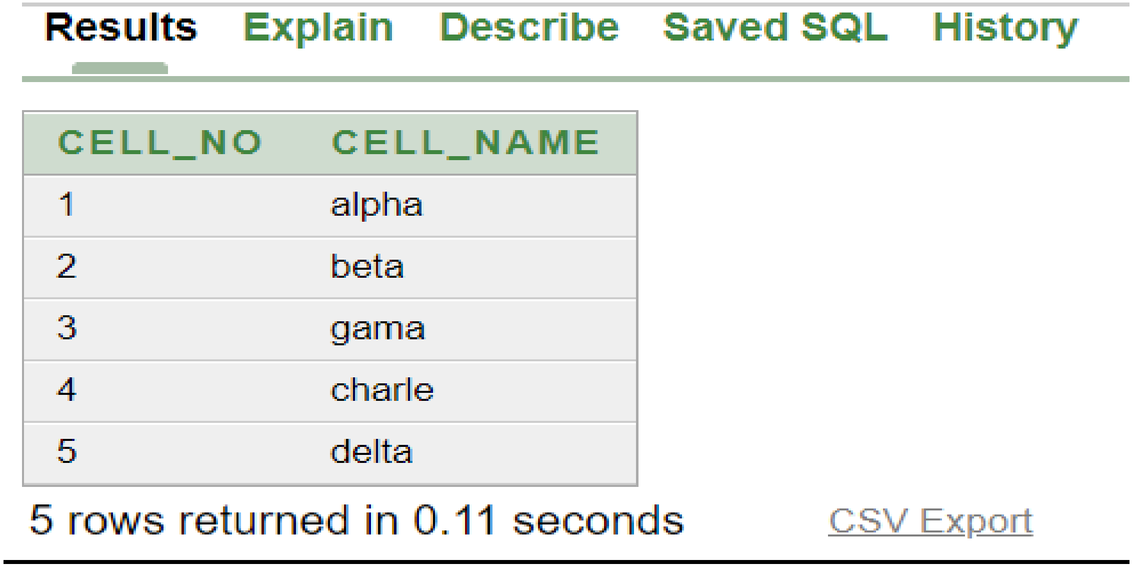
6. Alter table Case Add Constraint FK6 Foreign Key(P_ID) References Prisoner(P_ID);

7. Alter table Visitor Add Constraint FK7 Foreign Key(P_ID) References Prisoner(P_ID);

DATA INSERTION:

CELL TABLE:

- insert into Cell values('1','alpha');
- insert into Cell values('2','beta');
- insert into Cell values('3','gama');
- insert into Cell values('4','charle');
- insert into Cell values('5','delta');

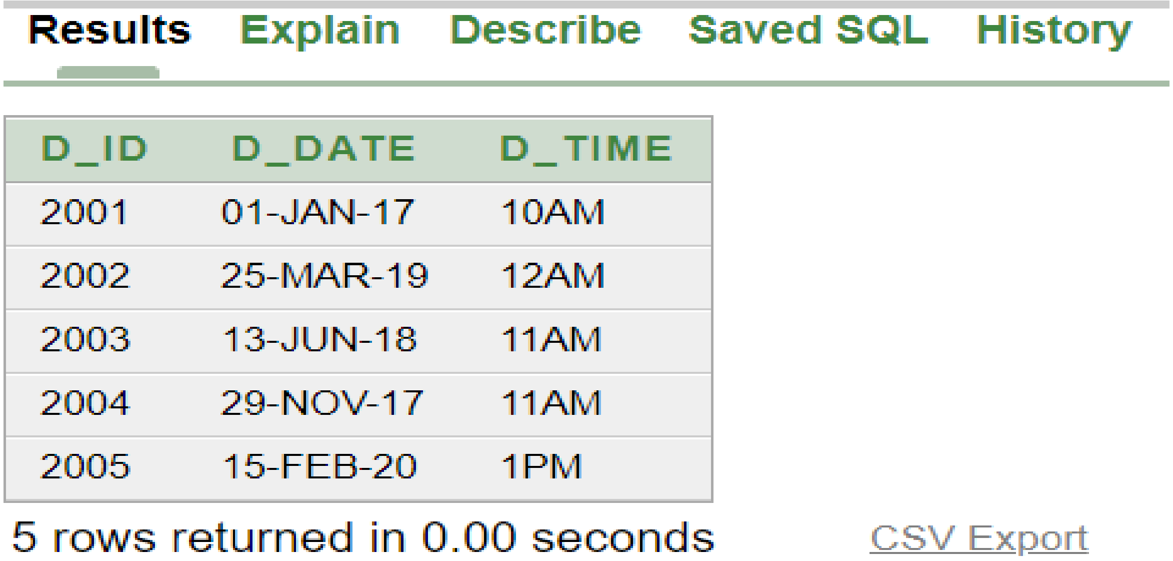


CELL_NO	CELL_NAME
1	alpha
2	beta
3	gama
4	charle
5	delta

5 rows returned in 0.11 seconds

DISTRIBUTION TABLE:

- insert into distribution values('2001','01-JAN-17','10AM');
- insert into distribution values('2002','25-MAR-19','12AM');
- insert into distribution values('2003','13-JUN-18','11AM');
- insert into distribution values('2004','29-NOV-17','11AM');
- insert into distribution values('2005','15-FEB-20','1PM');

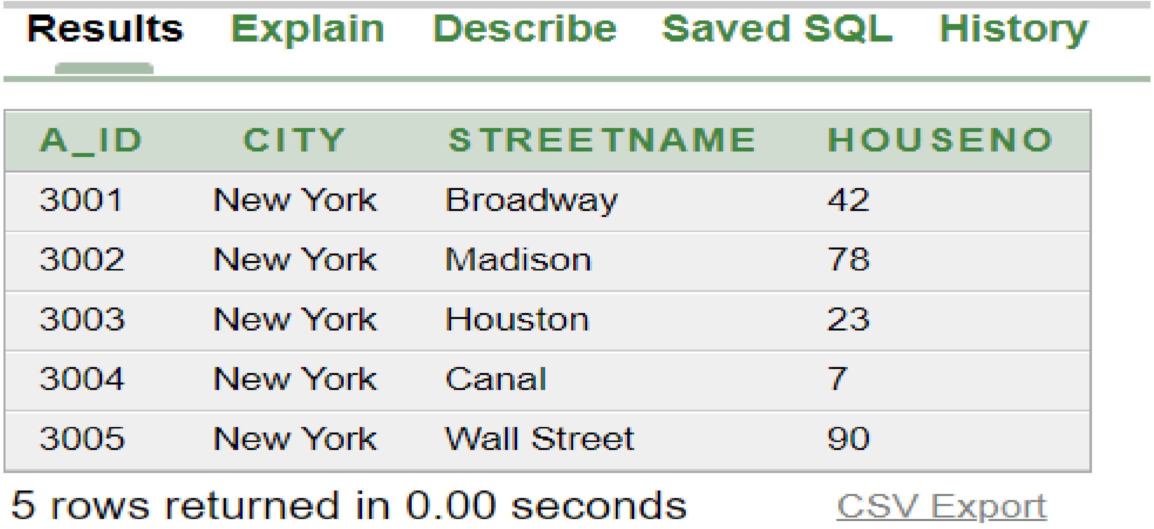


D_ID	D_DATE	D_TIME
2001	01-JAN-17	10AM
2002	25-MAR-19	12AM
2003	13-JUN-18	11AM
2004	29-NOV-17	11AM
2005	15-FEB-20	1PM

5 rows returned in 0.00 seconds

PrisonerAddress TABLE:

- insert into PrisonerAdd values ('3001','New York','Broadway','42');
- insert into PrisonerAdd values (3002','New York','Madison','78');
- insert into PrisonerAdd values ('3003','New York','Houston','23');
- insert into PrisonerAdd values ('3004','New York','Canal','7');
- insert into PrisonerAdd values ('3005','New York','Wall Street','90');

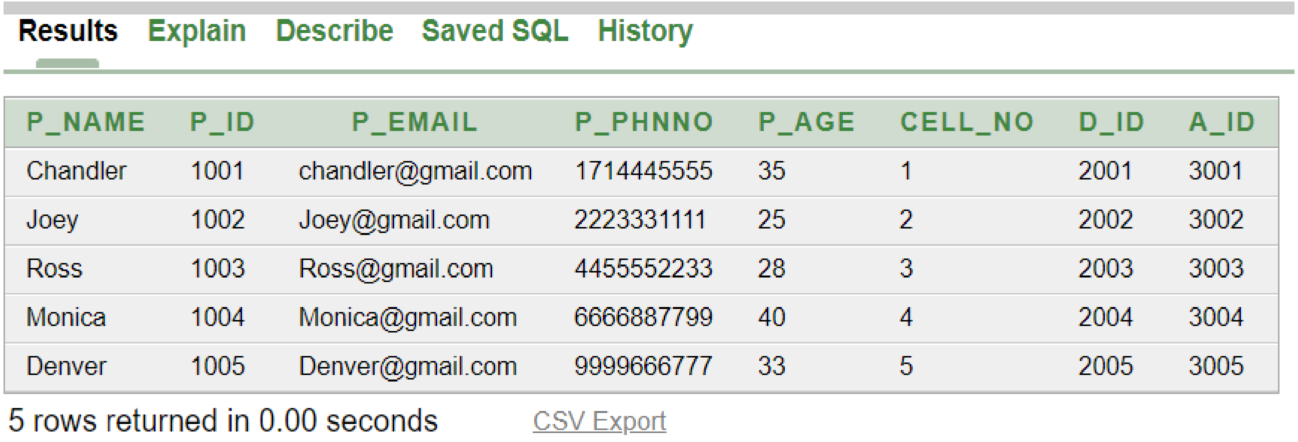


A_ID	CITY	STREETNAME	HOUSENO
3001	New York	Broadway	42
3002	New York	Madison	78
3003	New York	Houston	23
3004	New York	Canal	7
3005	New York	Wall Street	90

5 rows returned in 0.00 seconds

PRISONER TABLE:

- insert into Prisoner values ('Chandler','1001',' chandler@gmail.com','1714445555','35','1','2001','3001');
- insert into Prisoner values ('Joey','1002',' Joey@gmail.com','2223331111','25','2','2002','3002');
- insert into Prisoner values ('Ross','1003',' Ross@gmail.com','4455552233','28','3','2003','3003');
- insert into Prisoner values ('Monica','1004',' Monica@gmail.com','6666887799','40','4','2004','3004');
- insert into Prisoner values ('Denver','1005',' Denver@gmail.com','9999666777','33','5','2005','3005');

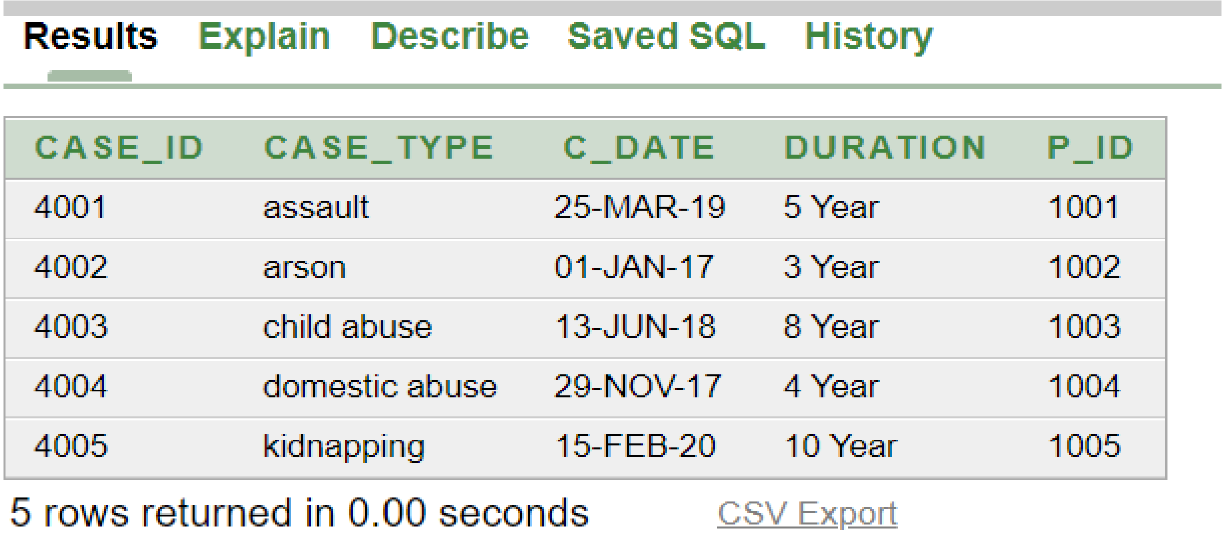


P_NAME	P_ID	P_EMAIL	P_PHNNO	P_AGE	CELL_NO	D_ID	A_ID
Chandler	1001	chandler@gmail.com	1714445555	35	1	2001	3001
Joey	1002	Joey@gmail.com	2223331111	25	2	2002	3002
Ross	1003	Ross@gmail.com	4455552233	28	3	2003	3003
Monica	1004	Monica@gmail.com	6666887799	40	4	2004	3004
Denver	1005	Denver@gmail.com	9999666777	33	5	2005	3005

5 rows returned in 0.00 seconds

CASE TABLE:

- insert into Case values ('4001','assault','25-MAR-19','5 Year','1001');
- insert into Case values ('4002','arson','01-JAN-17','3 Year','1002');
- insert into Case values ('4003','child abuse','13-JUN-18','8 Year','1003');
- insert into Case values ('4004','domestic abuse','29-NOV-17','4 Year','1004');
- insert into Case values ('4005','kidnapping','15-FEB-20','10 Year','1005');

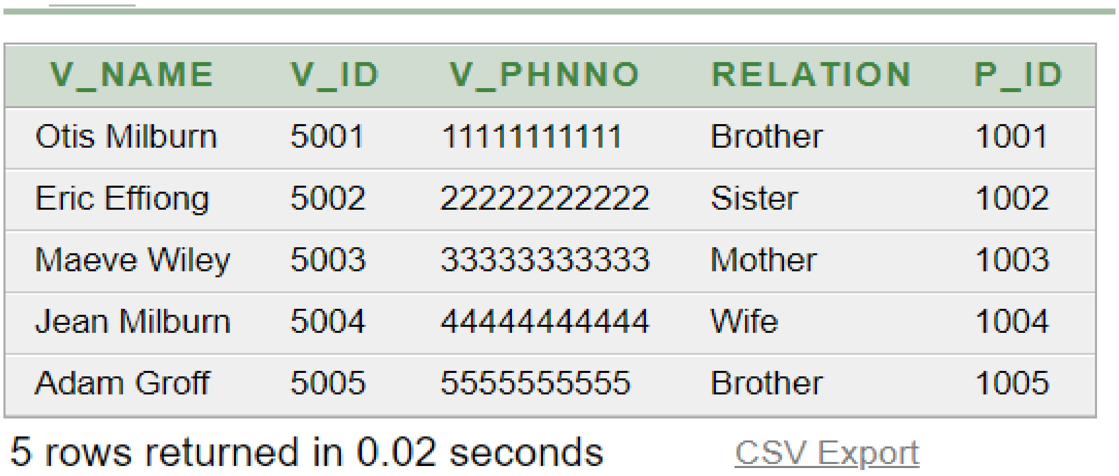


CASE_ID	CASE_TYPE	C_DATE	DURATION	P_ID
4001	assault	25-MAR-19	5 Year	1001
4002	arson	01-JAN-17	3 Year	1002
4003	child abuse	13-JUN-18	8 Year	1003
4004	domestic abuse	29-NOV-17	4 Year	1004
4005	kidnapping	15-FEB-20	10 Year	1005

5 rows returned in 0.00 seconds

VISITOR TABLE:

- insert into Visitor values ('Otis Milburn','5001','11111111111','Brother','1001');
- insert into Visitor values ('Eric Effiong','5002','22222222222','Sister','1002');
- insert into Visitor values ('Maeve Wiley','5003','33333333333','Mother','1003');
- insert into Visitor values ('Jean Milburn','5004','44444444444','Wife','1004');
- insert into Visitor values ('Adam Groff','5005','5555555555','Brother','1005');

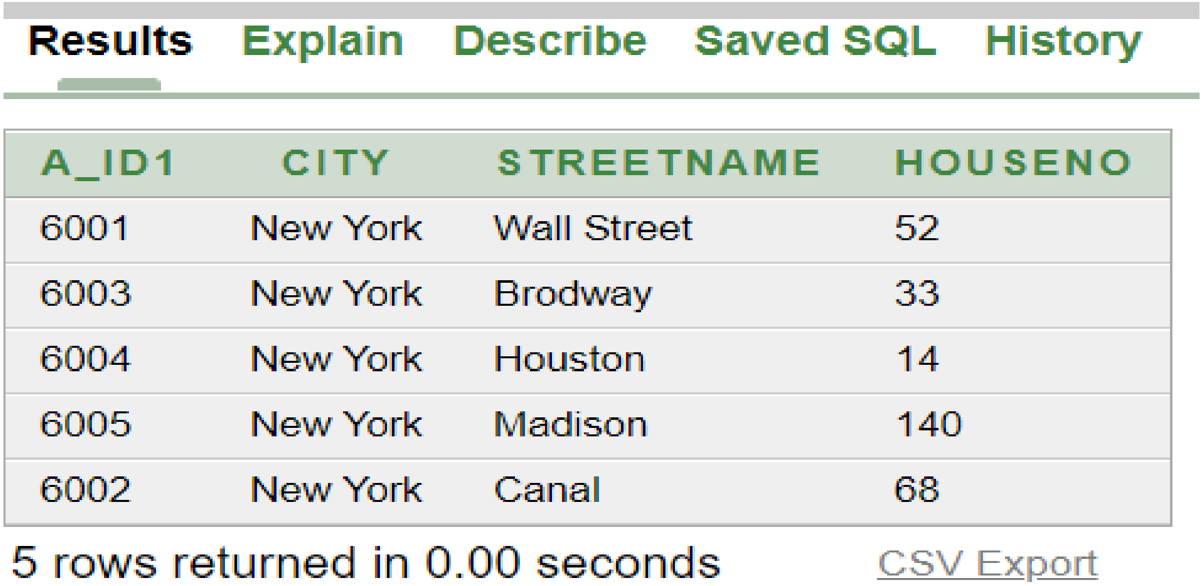


V_NAME	V_ID	V_PHNNO	RELATION	P_ID
Otis Milburn	5001	11111111111	Brother	1001
Eric Effiong	5002	22222222222	Sister	1002
Maeve Wiley	5003	33333333333	Mother	1003
Jean Milburn	5004	44444444444	Wife	1004
Adam Groff	5005	5555555555	Brother	1005

5 rows returned in 0.02 seconds

OfficerAdd TABLE:

- insert into OfficerAdd values ('6001','New York','Wall Street','52');
- insert into OfficerAdd values ('6002','New York','Canal','68');
- insert into OfficerAdd values ('6003','New York','Brodway','33');
- insert into OfficerAdd values ('6004','New York','Houston','14');
- insert into OfficerAdd values ('6005','New York','Madison','140');

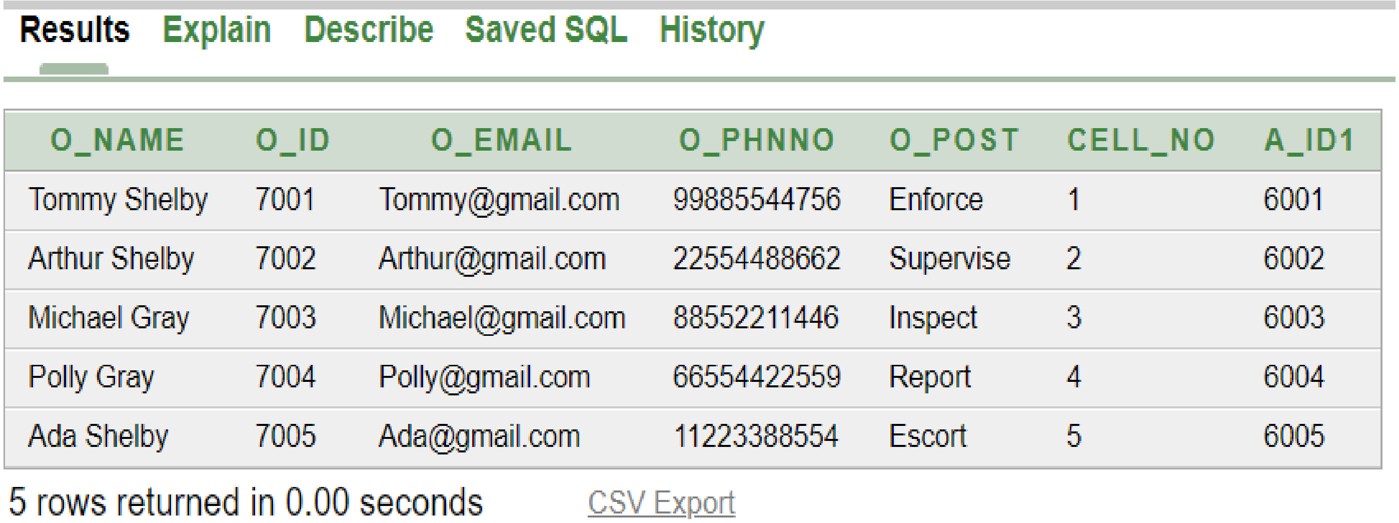


A_ID1	CITY	STREETNAME	HOUSENO
6001	New York	Wall Street	52
6003	New York	Brodway	33
6004	New York	Houston	14
6005	New York	Madison	140
6002	New York	Canal	68

5 rows returned in 0.00 seconds

OFFICER TABLE:

- insert into Officer values('Tommy Shelby','7001','Tommy@gmail.com','99885544756','Enforce','1','6001');
- insert into Officer values('Arthur Shelby','7002','Arthur@gmail.com','22554488662','Supervise','2','6002');
- insert into Officer values('Michael Gray','7003','Michael@gmail.com','88552211446','Inspect','3','6003');
- insert into Officer values('Polly Gray','7004','Polly@gmail.com','66554422559','Report','4','6004');
- insert into Officer values('Ada Shelby','7005','Ada@gmail.com','11223388554','Escort','5','6005');



O_NAME	O_ID	O_EMAIL	O_PHNNO	O_POST	CELL_NO	A_ID1
Tommy Shelby	7001	Tommy@gmail.com	99885544756	Enforce	1	6001
Arthur Shelby	7002	Arthur@gmail.com	22554488662	Supervise	2	6002
Michael Gray	7003	Michael@gmail.com	88552211446	Inspect	3	6003
Polly Gray	7004	Polly@gmail.com	66554422559	Report	4	6004
Ada Shelby	7005	Ada@gmail.com	11223388554	Escort	5	6005

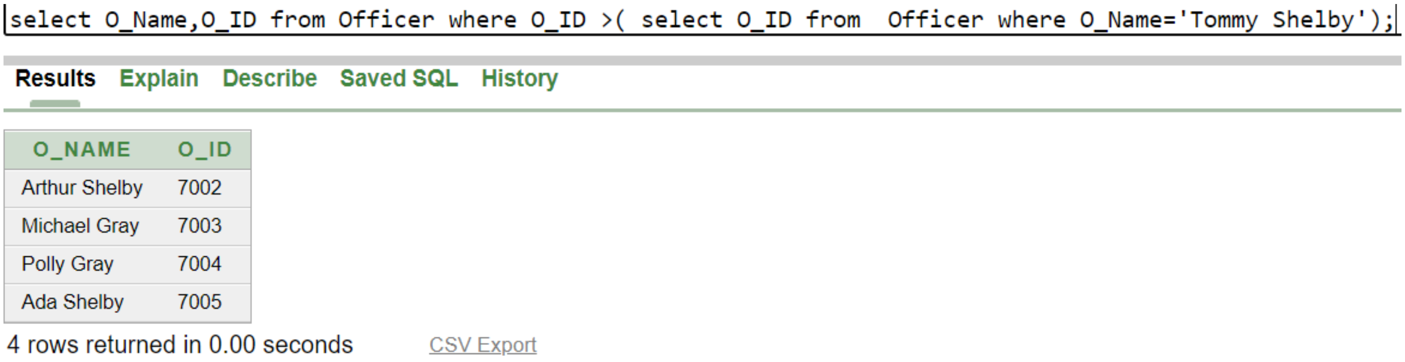
5 rows returned in 0.00 seconds

QUERY WRITING:

Subquery:

Ques: Display the Officer names and ID who’s ID is greater than Tommy Shelby.

Ans: select O_Name,O_ID from Officer where O_ID >(select O_ID from Officer where O_Name='Tommy Shelby');



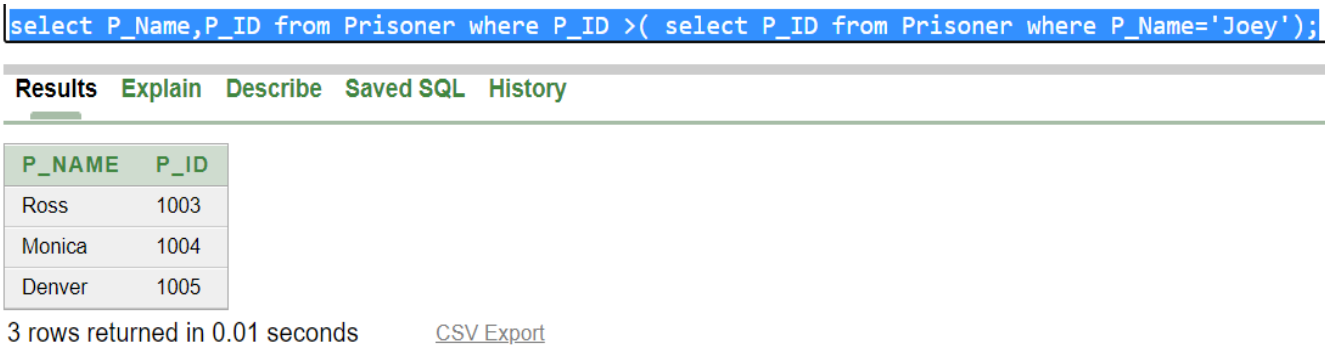
```
select O_Name,O_ID from Officer where O_ID >( select O_ID from  Officer where O_Name='Tommy Shelby');
```

O_NAME	O_ID
Arthur Shelby	7002
Michael Gray	7003
Polly Gray	7004
Ada Shelby	7005

4 rows returned in 0.00 seconds

Ques: Display the Prisoners names and ID who’s ID is greater than Joey.

Ans: select P_Name,P_ID from Prisoner where P_ID >(select P_ID from Prisoner where P_Name='Joey');



```
select P_Name,P_ID from Prisoner where P_ID >( select P_ID from Prisoner where P_Name='Joey');
```

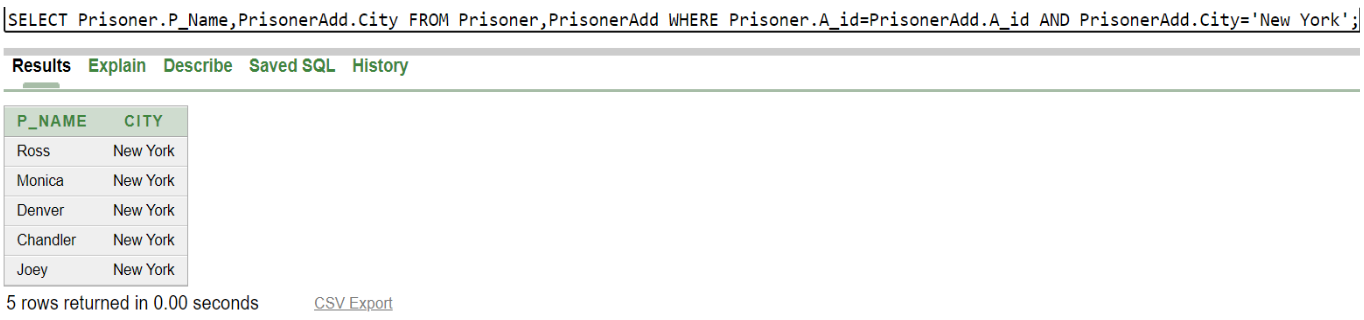
P_NAME	P_ID
Ross	1003
Monica	1004
Denver	1005

3 rows returned in 0.01 seconds

Joining:

Ques: Display the name of all the Prisoners who lives in New York.

Ans: SELECT Prisoner.P_Name,PrisonerAdd.City FROM Prisoner,PrisonerAdd WHERE Prisoner.A_id=PrisonerAdd.A_id AND PrisonerAdd.City='New York';



```
SELECT Prisoner.P_Name,PrisonerAdd.City FROM Prisoner,PrisonerAdd WHERE Prisoner.A_id=PrisonerAdd.A_id AND PrisonerAdd.City='New York';
```

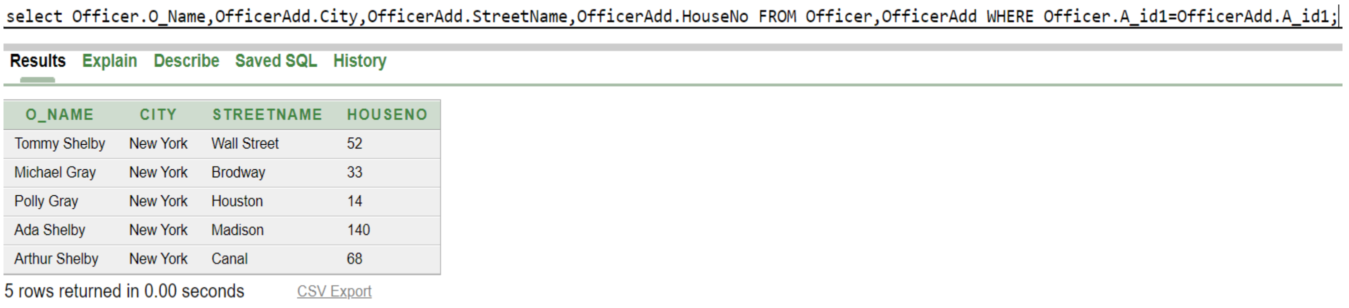
P_NAME	CITY
Ross	New York
Monica	New York
Denver	New York
Chandler	New York
Joey	New York

5 rows returned in 0.00 seconds CSV Export

Ques: Write a query to display the Officer name, city,HouseNo and Street name for all Officer.

Ans:

selectOfficer.O_Name,OfficerAdd.City,OfficerAdd.StreetName,OfficerAdd.HouseNo FROM Officer,OfficerAdd WHERE Officer.A_id1=OfficerAdd.A_id1;



```
select Officer.O_Name,OfficerAdd.City,OfficerAdd.StreetName,OfficerAdd.HouseNo FROM Officer,OfficerAdd WHERE Officer.A_id1=OfficerAdd.A_id1;
```

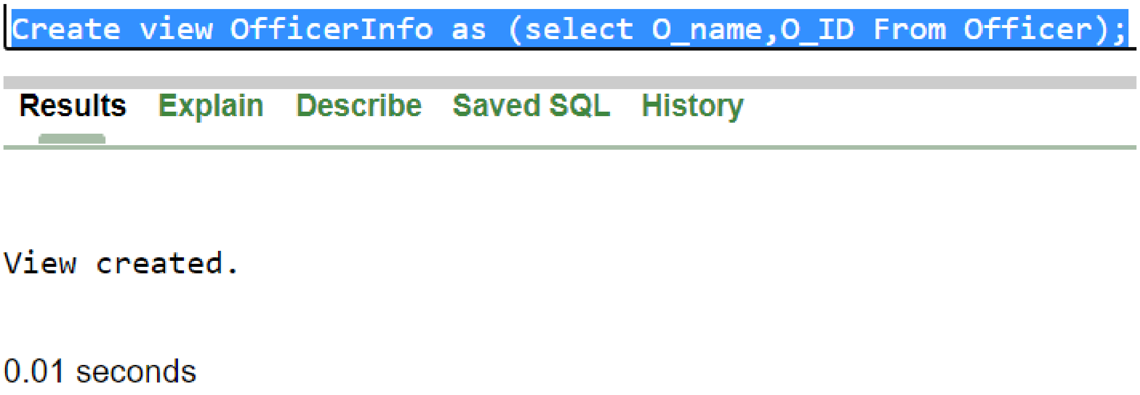
O_NAME	CITY	STREETNAME	HOUSENO
Tommy Shelby	New York	Wall Street	52
Michael Gray	New York	Brodway	33
Polly Gray	New York	Houston	14
Ada Shelby	New York	Madison	140
Arthur Shelby	New York	Canal	68

5 rows returned in 0.00 seconds CSV Export

View:

Ques: Create a view called OfficerInfo based on the O_name and O_ID from the Officer table.

Ans: Create view OfficerInfo as (select O_name,O_ID From Officer);



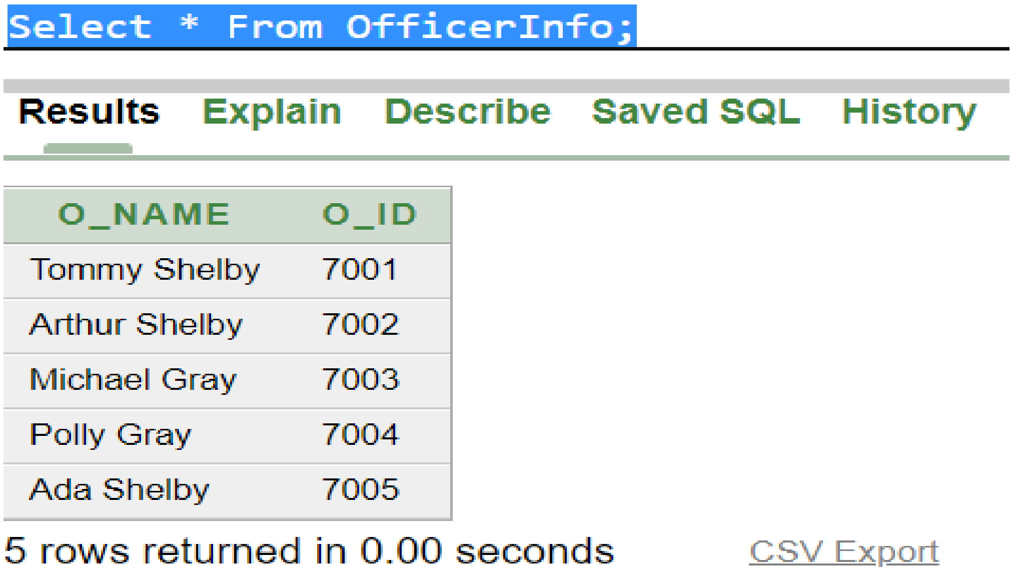
```
Create view OfficerInfo as (select O_name,O_ID From Officer);
```

```
View created.
```

0.01 seconds

Ques: Display all data From the OfficerInfo View.

Ans: Select * From OfficerInfo;



```
Select * From OfficerInfo;
```

O_NAME	O_ID
Tommy Shelby	7001
Arthur Shelby	7002
Michael Gray	7003
Polly Gray	7004
Ada Shelby	7005

5 rows returned in 0.00 seconds

Relational Algebra:

Ques: Find the name of the Prisoner which Id is 1001.

Ans: $\prod_{\text{P\_Name}} (\sigma_{\text{P\_ID= “1001”}} (\text{Prisoner}))$

Ques: Find the Officer who lives in Houston.

Ans: $\prod_{\text{O\_name}} (\sigma_{\text{O\_Add= “Houston”}} (\text{Officer}))$

Ques: Find the name of Prisoner which ID is less than 1004.

Ans: $\prod_{\text{P\_name}} (\sigma_{\text{P\_ID<“1001„}} (\text{Prisoner}))$

Ques: Find the name of all Officer.

Ans: $\prod_{\text{O\_Name}} (\text{Officer}))$

Ques: Find the ID of Officer 'Ada Shelby.

Ans: . $\prod_{\text{O\_ID}} (\sigma_{\text{O\_name= “}}$'Ada Shelby$_{„}$ (Officer))