***Normalization of US Bangla Airlines Management System***

Owns (Website, Airplane\_No, Seating\_Capacity)

1NF:

No Multivalued Attribute

2NF:

Airplane\_No, Seating\_Capacity, SL\_No

SL\_No, Website, Airplane\_No

3NF:

Airplane\_No, Seating\_Capacity, SL\_No

SL\_No, Website, Airplane\_No

No Transitive Dependency

**Table:**

Airplane\_No, Seating\_Capacity, SL\_No

SL\_No, Website, Airplane\_No

Access (Airplane\_No, Seating\_Capacity, Airport\_Name, Airport\_Code, Address, Country, Zip, City, State)

1NF:

Address Multivalued Attribute

2NF:

Airplane\_No, Seating\_Capacity

Airport\_Code, Address, Country, Zip, City, State

a.ID, Airplane\_No, Airport\_Code

3NF:

Air Airplane\_No, Seating\_Capacity

Airport\_Code, Address, Country, Zip, City, State

a.ID, Airplane\_No, Airport\_Code

add\_No, Address, Country, Zip, City, State

**Table:**

Air Airplane\_No, Seating\_Capacity

Airport\_Code, Address, Country, Zip, City, State

a.ID, Airplane\_No, Airport\_Code

add\_No, Address, Country, Zip, City, State

Has (Airplane\_No, Seating\_Capacity, Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport, No\_of\_Travellers)

1NF:

No Multivalued Attribute

2NF:

Airplane\_No, Seating\_Capacity

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

Depart\_Airport, No\_of\_Travellers

Af\_No, Airplane\_No, Flight\_Trip\_No

3NF:

Airplane\_No, Seating\_Capacity

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

Depart\_Airport, No\_of\_Travellers

Af\_No, Airplane\_No, Flight\_Trip\_No

No Transitive Dependency

**Table:**

Airplane\_No, Seating\_Capacity

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

Depart\_Airport, No\_of\_Travellers

Af\_No, Airplane\_No, Flight\_Trip\_No

Cost (Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport, No\_of\_Travellers, Discount, Amount, Tax, Currency, Final\_Amount)

1NF:

No Multivalued Attribute

2NF:

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers, f\_No

F\_No, Discount, Amount, Tax, Currency, Final\_Amount

3NF:

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers, f\_No

F\_No, Discount, Amount, Tax, Currency, Final\_Amount

No Transitive Dependency

**Table:**

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers, f\_No

F\_No, Discount, Amount, Tax, Currency, Final\_Amount

Travels (Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport, No\_of\_Travellers, Phone, Traveller\_ID, Name, First\_Name, Last\_Name)

1NF:

Phone multivalued Attribute

2NF:

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers

Traveller\_ID, Name, Phone, First\_Name, Last\_Name, Flight\_Trip\_No

3NF:

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers

Traveller\_ID, Phone, Flight\_Trip\_No, n\_No

n\_No, Name, First\_Name, Last\_Name

**Table:**

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers

Traveller\_ID, Phone, Flight\_Trip\_No, n\_No

n\_No, Name, First\_Name, Last\_Name

Reserved (Phone, Traveller\_ID, Name, First\_Name, Last\_Name, Seat\_No, Available, Location, Class)

1NF:

Phone Multivalued Attribute

2NF:

Traveller\_ID, Name, First\_Name, Last\_Name

Seat\_No, Available, Location, Class, Traveller\_ID

3NF:

Traveller\_ID, Name, First\_Name, Last\_Name

Seat\_No, Available, Location, Class, Traveller\_ID

No Transitive Dependency

**Table:**

Traveller\_ID, Name, First\_Name, Last\_Name

Seat\_No, Available, Location, Class, Traveller\_ID

Has (Airplane\_No, Seating\_Capacity, Seat\_No, Available, Location, Class)

1NF:

No Multivalued Attribute

2NF:

Airplane\_No, Seating\_Capacity

Seat\_No, Available, Location, Class, Airplane\_No

3NF:

Airplane\_No, Seating\_Capacity

Seat\_No, Available, Location, Class, Airplane\_No

No Transitive Dependency

**Table:**

Airplane\_No, Seating\_Capacity

Seat\_No, Available, Location, Class, Airplane\_No

**Total Table:**

Airplane\_No, Seating\_Capacity, SL\_No

SL\_No, Website, Airplane\_No

~~Air Airplane\_No, Seating\_Capacity~~

Airport\_Code, Address, Country, Zip, City, State

a.ID, Airplane\_No, Airport\_Code

add\_No, Address, Country, Zip, City, State

~~Airplane\_No, Seating\_Capacity~~

~~Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,~~

~~No\_of\_Travellers~~

Af\_No, Airplane\_No, Flight\_Trip\_No

~~Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,~~

~~No\_of\_Travellers, f\_No~~

F\_No, Discount, Amount, Tax, Currency, Final\_Amount

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers

Traveller\_ID, Phone, Flight\_Trip\_No, n\_No

n\_No, Name, First\_Name, Last\_Name

Traveller\_ID, Name, First\_Name, Last\_Name

Seat\_No, Available, Location, Class, Traveller\_ID

~~Airplane\_No, Seating\_Capacity~~

Seat\_No, Available, Location, Class, Airplane\_No

**Final Table:**

Airplane\_No, Seating\_Capacity, SL\_No

SL\_No, Website, Airplane\_No

Airport\_Code, Address, Country, Zip, City, State

a.ID, Airplane\_No, Airport\_Code

add\_No, Address, Country, Zip, City, State

Af\_No, Airplane\_No, Flight\_Trip\_No

F\_No, Discount, Amount, Tax, Currency, Final\_Amount

Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport,

No\_of\_Travellers

Traveller\_ID, Phone, Flight\_Trip\_No, n\_No

n\_No, Name, First\_Name, Last\_Name

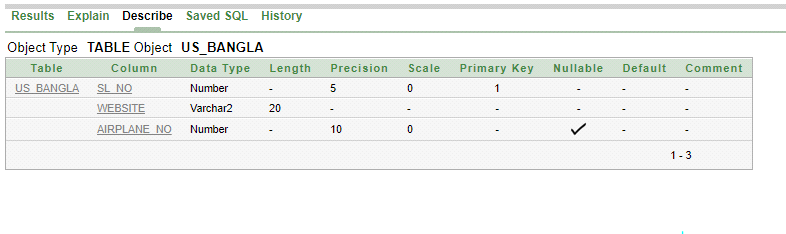
Traveller\_ID, Name, First\_Name, Last\_Name

Seat\_No, Available, Location, Class, Traveller\_ID

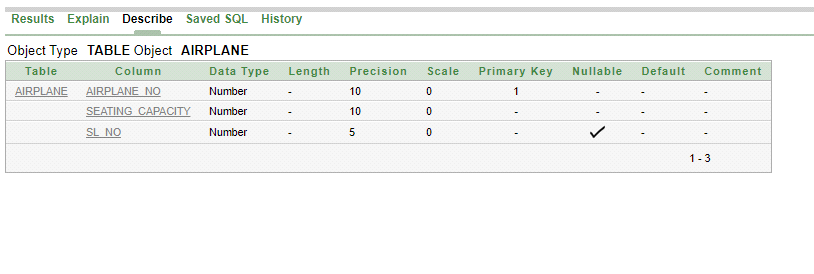
Seat\_No, Available, Location, Class, Airplane\_No

**Description of all table:**

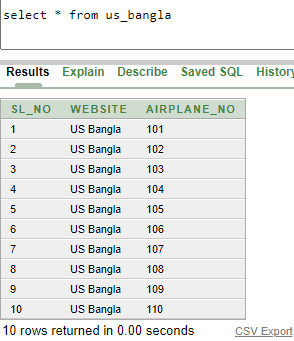
**US\_BANGLA table:**



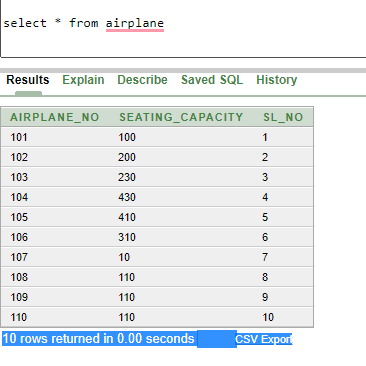
**Airplane Table:**



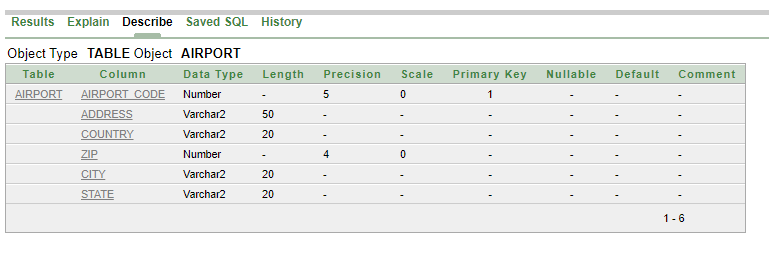
**US\_BANGLA table:**



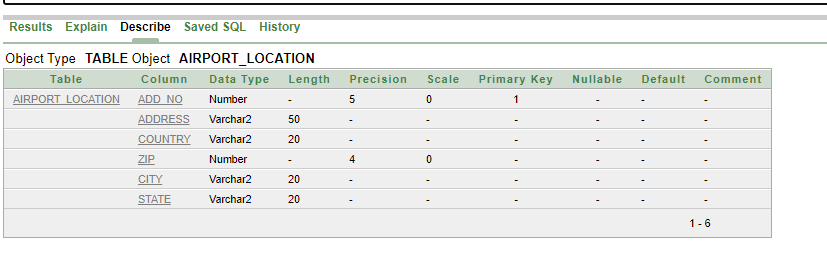
**Airplane table:**



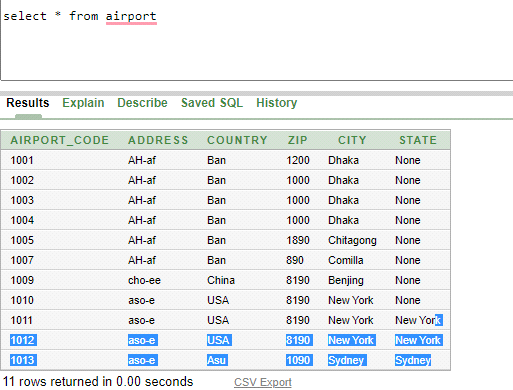
**Airport Table:**



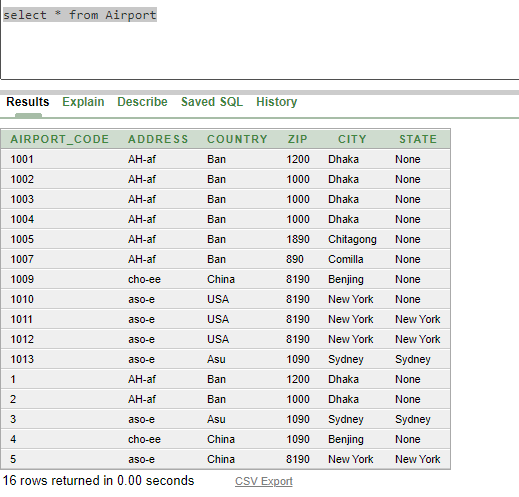
**Airport Location Table:**



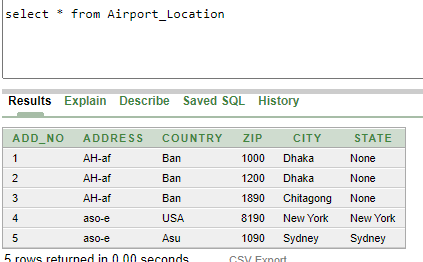
**Airport Table:**



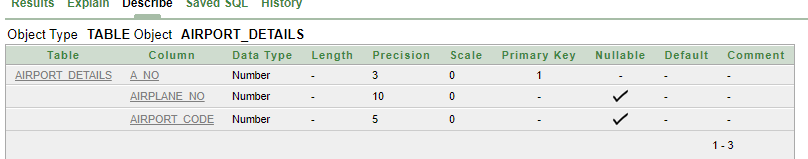
**Airport Table:**



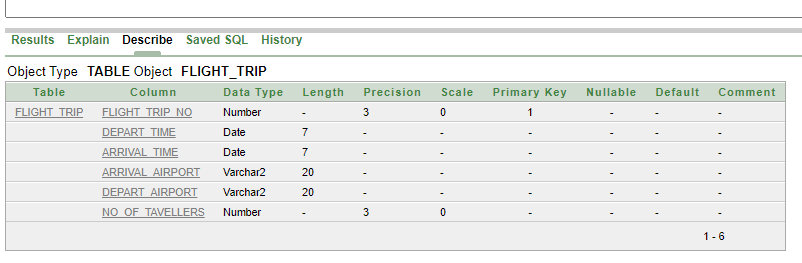
**Airport Location Table:**



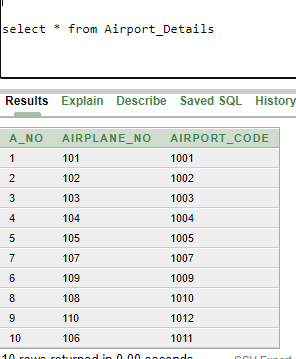
**Airport Details Table:**



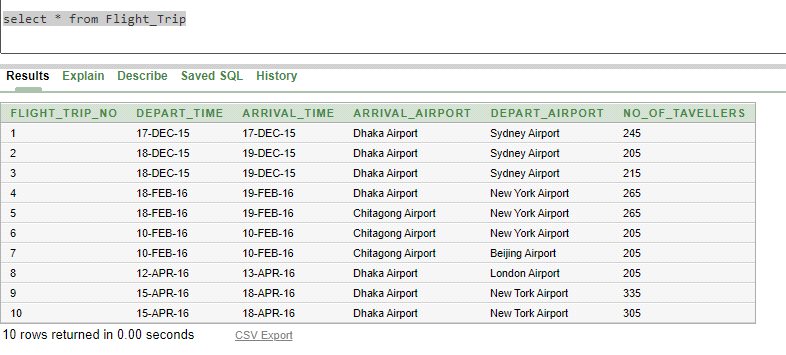
**Flight Trip Table:**



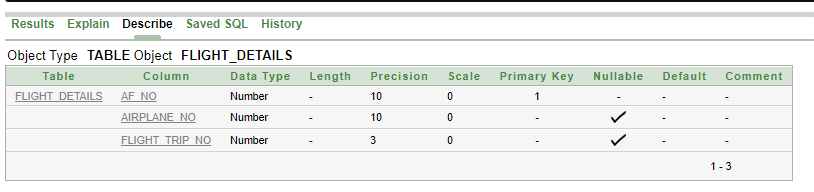
**Airport Deatils Table:**



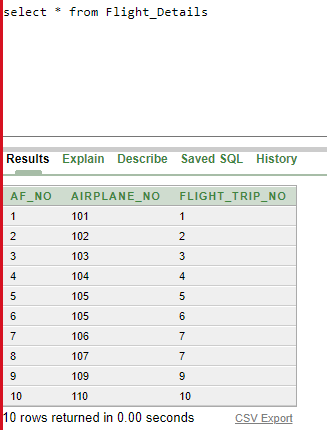
**Flight Trip Table:**



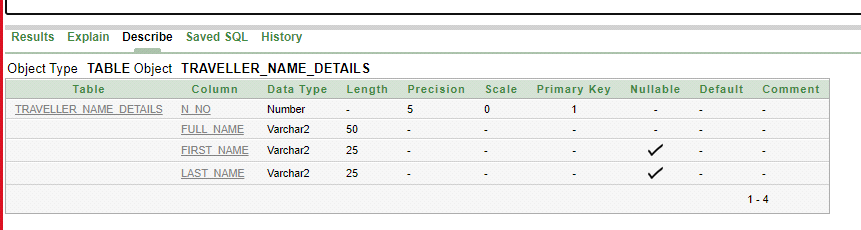
**Flight Details Table:**



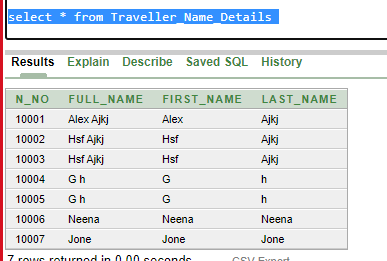
**Flight Details Table:**



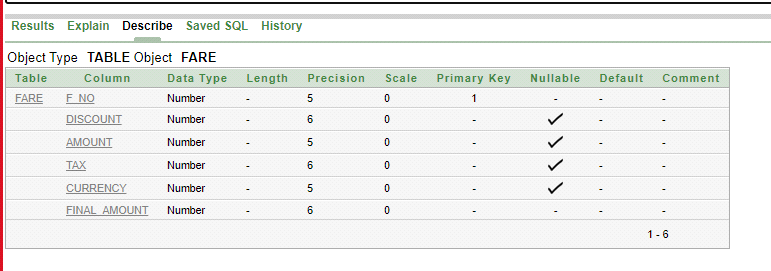
**Traveler\_Name Details Table:**



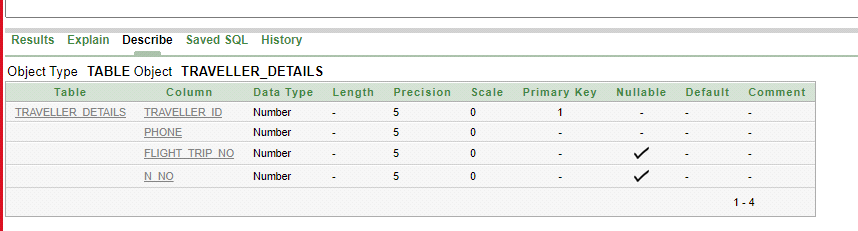
**Traveller Name Details Table:**



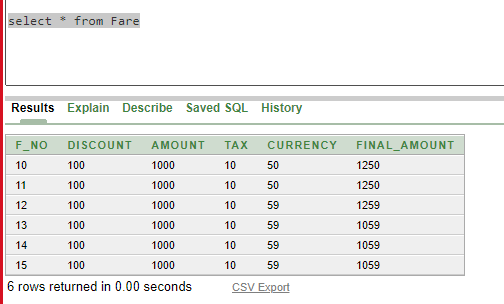
**Fare Table:**



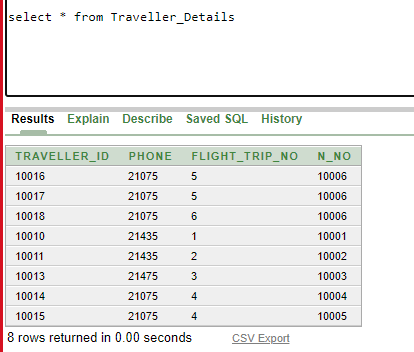
**Traveller Details:**



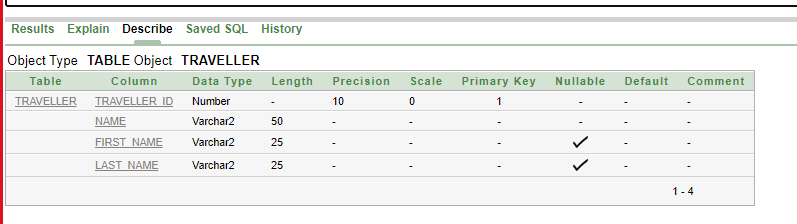
**Fare Table:**



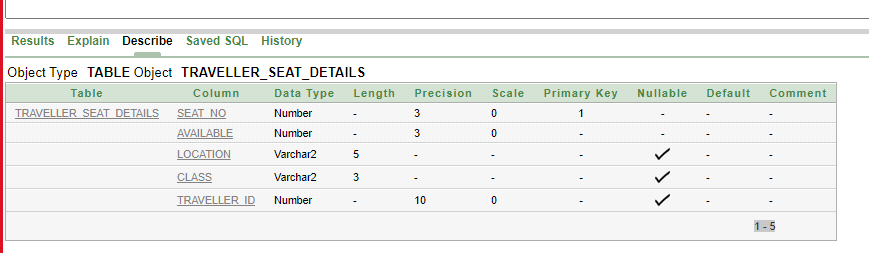
**Traveller Details:**



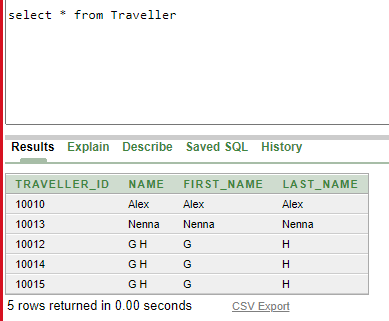
**Traveller Table:**



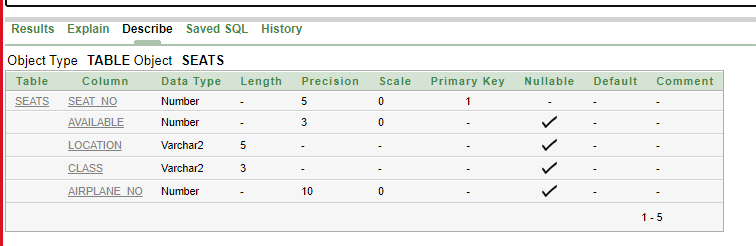
**Traveller Seat Details Table:**



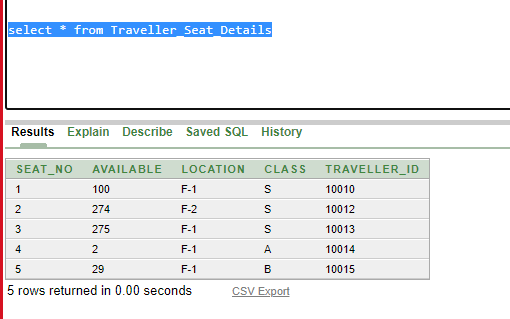
**Traveller Table:**



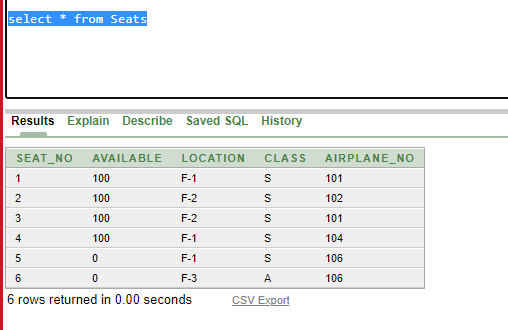
**Seats Table:**



**Traveller Seat Details Table:**



**Seats Tabel:**



***Table SQL***

**1.**

create table Airplane(

Airplane\_No number(10) primary key,

Seating\_Capacity number(10) not null,

SL\_No number(5) constraint sl\_usfk references US\_Bangla(SL\_No))

insert into Airplane(Airplane\_No, Seating\_Capacity, SL\_No) values (110, 110, 01)

select \* from airplane

**2.**

create table US\_Bangla(

SL\_No number(5) not null primary key,

Website varchar2(20) not null,

Airplane\_No number(10))

insert into US\_Bangla(SL\_No, Website, Airplane\_No) values (10, 'US Bangla', 110)

select \* from us\_bangla

drop table airplane

drop table us\_bangla

desc us\_bangla

desc airplane

**3.**

create table Airport(

Airport\_code number(5) not null primary key,

Address varchar2(50) not null,

Country varchar2(20) not null,

Zip number(4) not null,

City varchar2(20) not null,

State varchar2(20) not null)

desc airport

Insert into Airport(Airport\_code, Address, Country, Zip, City, State) values(1001, 'AH-af', 'Ban', 1200, 'Dhaka', 'None')

Insert into Airport(Airport\_code, Address, Country, Zip, City, State) values(1013, 'aso-e', 'Asu', 1090, 'Sydney', 'Sydney')

select \* from airport

**4.**

create table Airport\_Location(

Add\_No number(5) not null primary key,

Address varchar2(50) not null,

Country varchar2(20) not null,

Zip number(4) not null,

City varchar2(20) not null,

State varchar2(20) not null)

desc Airport\_Location

Insert into Airport\_Location(add\_no, Address, Country, Zip, City, State) values(03, 'AH-af', 'Ban', 1890, 'Chitagong', 'None')

Insert into Airport\_Location(add\_no, Address, Country, Zip, City, State) values(05, 'aso-e', 'Asu', 1090, 'Sydney', 'Sydney')

select \* from Airport\_Location

**5.**

create table Airport\_Details(

a\_No number(3) not null primary key,

Airplane\_No number(10) constraint an\_ap\_fk references Airplane(Airplane\_No),

Airport\_code number(5) constraint ac\_ad\_fk references Airport(Airport\_code))

desc Airport\_Details

drop table Airport\_Details

Insert into Airport\_Details(a\_No, airplane\_no, airport\_code) values (10, 106, 1011)

select \* from Airport\_Details

**6.**

create table Flight\_Trip(

Flight\_Trip\_No number(3) not null primary key,

Depart\_Time date not null,

Arrival\_Time date not null,

Arrival\_Airport varchar2(20) not null,

Depart\_Airport varchar2(20) not null,

No\_of\_Tavellers number(3) not null)

drop table Flight\_Trip

desc Flight\_Trip

insert into Flight\_Trip(Flight\_Trip\_No, Depart\_Time, Arrival\_Time, Arrival\_Airport, Depart\_Airport, No\_of\_Tavellers) values (10,TO\_DATE('15/04/2016', 'DD/MM/YYYY'),TO\_DATE('18/04/2016', 'DD/MM/YYYY'), 'Dhaka Airport', 'New Tork Airport', 305)

select \* from Flight\_Trip

**7.**

create table Flight\_Details(

Af\_No number(10) not null primary key,

Airplane\_No number(10) constraint an\_app\_fk references Airplane(Airplane\_No),

Flight\_Trip\_No number(3) constraint fn\_ft\_fk references Flight\_Trip(Flight\_Trip\_No))

desc Flight\_Details

Insert into Flight\_Details(Af\_No, Airplane\_No, Flight\_Trip\_No) values(10, 110, 10)

select \* from Flight\_Details

**8.**

create table Traveller\_Name\_Details(

n\_No number(5) primary key,

Full\_Name varchar2(50) not null,

First\_name varchar2(25),

Last\_Name varchar2(25))

desc Traveller\_Name\_Details

drop table Traveller\_Name\_Details

Insert into Traveller\_Name\_Details(n\_No, Full\_Name, First\_Name, Last\_NAMe) values (10007, 'Jone', 'Jone', 'Jone')

select \* from Traveller\_Name\_Details

**9.**

create table Fare(

F\_No number(5) primary key,

Discount number(6),

Amount number(5),

Tax number(6),

Currency number(5),

Final\_Amount number(6) not null)

desc Fare

Insert into Fare(F\_No, Discount, Amount, Tax, Currency, Final\_Amount) values (0015, 100, 1000, 10, 59, 1059)

select \* from Fare

**10.**

create table Traveller\_Details(

Traveller\_ID number(5) primary key,

Phone number(5) not null,

Flight\_Trip\_No number(5) constraint fi\_fi\_fk references Flight\_Trip(Flight\_Trip\_No),

n\_No number(5) constraint tr\_fn\_fk references Traveller\_Name\_Details(n\_No))

desc Traveller\_Details

drop table Traveller\_Details

insert into Traveller\_Details(Traveller\_ID, Phone, Flight\_Trip\_No, n\_No) values (10019, 11075, 07, 10008)

select \* from Traveller\_Details

**11.**

create table Traveller(

Traveller\_ID number(10) primary key,

Name Varchar2(50) not null,

First\_Name varchar2(25),

Last\_Name varchar2(25))

desc Traveller

insert into Traveller(Traveller\_ID, Name, First\_Name, Last\_Name) values (10015, 'G H', 'G','H')

select \* from Traveller

**12.**

CREATE TABLE Traveller\_Seat\_Details(

Seat\_No number(3) primary key,

Available number(3) not null,

Location Varchar2(5),

Class varchar2(3),

Traveller\_ID number(10) constraint ti\_ffn\_fk references Traveller(Traveller\_ID ))

desc Traveller\_Seat\_Details

insert into Traveller\_Seat\_Details(Seat\_No, Available, Location, Class, Traveller\_ID) values (05, 29, 'F-1', 'B', 10015)

select \* from Traveller\_Seat\_Details

**13.**

create table Seats(

Seat\_No number(5) primary key,

Available number(3),

Location varchar2(5),

Class varchar2(3),

Airplane\_No number(10) constraint a\_ap\_fk references Airplane(Airplane\_No))

desc Seats

Insert into Seats(Seat\_No, Available, Location, Class, Airplane\_No) values (06, 00, 'F-3', 'A', 106)

select \* from Seats

**Questions for query:**

1.display state,city,zip,country,address where airport code=1012

2.display traveller id,phone,n no where flight trip no=5

3.display discount,amount,tax,currency,final amount where f no=12

4.display maximum available seat where class=s

5.display full name where first name='alex'

6.display airplane no,serial no where seat capacity more than 200

7.display flight trip no,departure time,arrival time,depart airport for those airplane which have more than 250 traveller

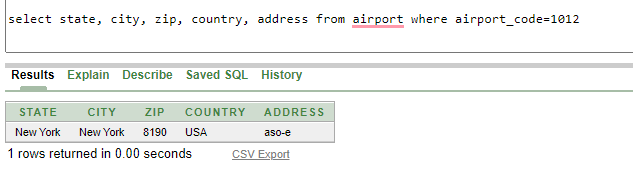
8.Write a SQL statement to prepare a list with traveller id, airplane no and their class for the traveller id and airplane no who belongs to the same class

9.Write a query to create a view for those airport code belongs to the city dhaka

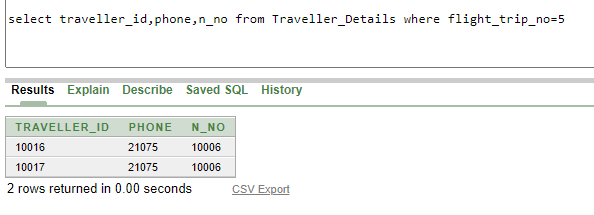
10.Write a query to create a view for those traveller id belongs to the 5 no. flight trip

**Query:**

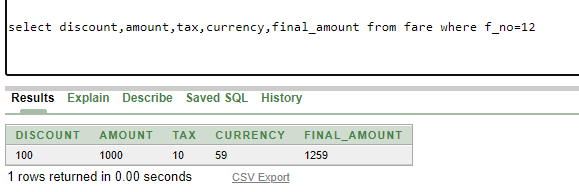
display state,city,zip,country,address where airport code=1012



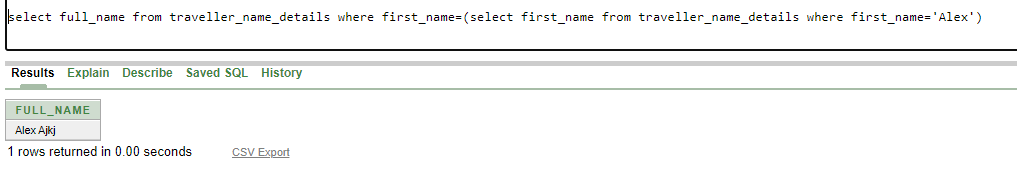
display traveller id,phone,n no where flight trip no=5



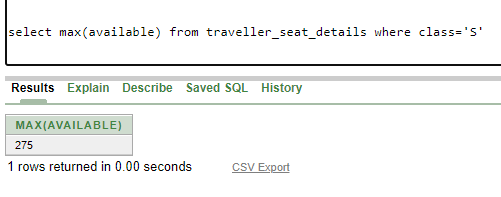
display discount,amount,tax,currency,final amount where f no=12



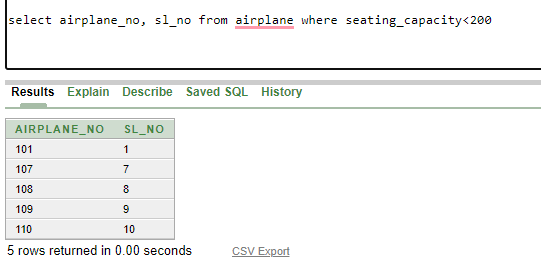
display maximum available seat where class=s



display full name where first name='alex'



display airplane no,serial no where seat capacity more than 200



display flight trip no,departure time,arrival time,depart airport for those airplane which have more than 250 traveller

