DATABASE MANAGEMENT SYSTEM

TOPIC –

AIRLINE DATABASE MANAGEMENT SYSTEM

SECTION –S4

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DESCRIPTION

Create a database for the largest Airline Company serving more than three million passengers from nine different destinations. It has highest capacity aircrafts, all equipped with modern technology stuffs ensuring quality and safe flying. This airline company has several branches in different countries. It has different branches in each state. Its dedicated employees are keen to prove the quality service, often recommended by its customers. This Airline Company is well known for low airfare for both ways routes services across domestic customers. Highly dedicated in customer services. This airline company offers several discounts schemes for children and people with disabilities. This Airline Company has won multiple awards for its safety and reliability records of line from national and international organisation. Due to its high reliability, safety records and highly gained trusts from customers, this airline company is having more transactions, causing day today expanding business activities hard to manage the operations. To ensure more flexible service for customers its highly recommended to implement and Airline reservation system database – A computerised system that will help to manage all information related to flight, passenger, their contact details, reservation, transactions schedule publishing airfare payments of the customer and payment details to book a flight

Each flight schedule must consist of flight ID, flight date, departure and arrival. The passengers want to travel need to have the following details. The passengers consist of passenger ID, name, address, age, nationality, login ID and Password. Each aircraft consists of aircraft ID, aircraft capacity, manufacturer and its date. Airfare consists of Airfare ID and fare. Discount consists of Discount ID, title, amount and description. Charges consists of charge ID, title, amount, description. Each country consists of country ID and country name. Each state has its state ID and state name. Branches have Branch ID, Centre and Address. Employees have Employee ID, Name, Address, Designation, Email and their telephone number. Transactions have Transaction ID, Booking date, Departure date and Flight type.

Payment Details have Card holder's name, Card number, Card's Expiration date and CVV. The customers are welcome to those from different flight schedules those are available throughout a day depending upon their comfort willingness and flexibility and of course upon flight availability. All customers must reserve a flight to travel. No on the gate sales are available. All customers can't buy

tickets at airports, instead they need to visit online stores or a sale counter to get a ticket reserved for future plans. Full payments are necessary to order to confirm a booking. There can be several discount schemes which can be claimed by customers, and is given upon proper alignment discount description. Customer must be panelised for cancellation. How much charges they have to pay depends upon when they are cancelling the flights. Customer can demand the cancellation and a 100% refund of a flight cancelled due to technical issues (e.g. bad whether). All Employees must be dressed according to the company dress code with an ID card, mentioning the details of the Employees Id, their name, address, branch ID, designation, email address and Telephone number, which must be visible to the guest. Each branch consists of an employee. Employees are hereby responsible for serving customers first, second their own jobs. Each employee can have many transactions.

ENTITIES AND THEIR ATTRIBUTE

1) Aircrafts -> AC_ID, Aircraft_capacity, MFD_BY, MFD_ON.
2) Route -> RTID, Route _code
3) Airfare ->AFID, Fare
4) Flight_schedule -> FLID, Flight_date, Departure, Arrival
5) Discount -> DIID, Title, Damount, Ddescription
6) Charges -> CHID, Title, Camount, Cdescription
7) Countries -> CTID, Country_name
8) State -> STID, State_name
9) Contact_details -> CNID, Email, Contact_no
10) Passengers -> PSID, Name, Address, Age, Nationality, Login_ID, Password
11) Branches -> BRID, Centre, Address
12) Employees -> Emp_ID, Ename, Eaddress, Designation, Eemail, Etel_no
13) Transactions -> TSID, Booking_date, Departure_date, Flight_type
14) Payment_Details -> Card_holder_name, Card_number, Exp_date, CVV

RELATIONSHIPS:

1) Passengers makes transactions
2) Passenger having contact details
3) Discount issued_for (Passengers makes Transaction): Aggregate relation
4) States in Countries
5) Employees doing Transaction
6) Employees Works_in branch
7) Transaction Reserved_for Flight_schedule
8) Flight_schedule for Route
9) Flight_schedule Accompanied_by aircrafts
10) Airfare Associated_with Route
11)Passenger with Payment_details
12)Transactions Can_have charges
13) Branches Located_in States

CARDINALITY

M = Many, N = 0, 1, 2 …

S.NO	ENTITIES	CARDINALITY
1.	Passengers makes transactions	1: 1
2.	Passenger having contact details	1: 1
4.	States in Countries	1: M
5.	Employees doing Transaction	M:1
6.	Employees Works_in branch	1:M
7.	Transaction Reserved_for Flight_schedule	1: M
9.	Flight_schedule Accompanied_by Aircrafts	1:M
10.	Airfare Associated_with Route	1: 1
15.	Transactions Can_have charges	N: 1
16.	Branches Located_in States	1: M
17.	Flight_schedule for Route	1: N
18.	Passengers with Payment_details	1:1
19.	Discount issued_for (Passengers makes transactions)	M:1

TABLE SCHEMA

1)AIRCRAFTS

ATTRIBUTES	DATA TYPES	DESCRIPTION	CONSTRAINTS
AC_ID	Int	Stores unique number	Primary Key
Aircraft_capacity	Int	No. of seats available	NOT NULL
MFD_BY	Varchar (50)	Manufacturing Company	NOT NULL
MFD_ON	DATE	Manufactured date of aircraft	NOT NULL

2)ROUTE

ATTRIBUTES	DATA TYPES	DESCRIPTION	CONSTRAINTS
RTID	Int	Unique route Ids	Primary Key
Airport	Varchar (50)	Flight will take off from here	NOT NULL
Route _code	Varchar (50)	Unique route code depends on the Source and Destination of the following flight.	NOT NULL BUT UNIQUE

3)AIRFARE

ATTRIBUTE	DATA TYPES	DESCRIPTION	CONSTRAINTS
AFID	Int	Unique AFID	Primary Key
Fare	Int	Stores service charge	NOT NULL

4)FLIGHT SCHEDULE

ATTRIBUTES	DATA TYPES	DESCRIPTION	CONSTRAINTS
FLID	Int	Uniquely identity the flights	Primary Key
Flight_Date	DATETIME	Date of flight	NOT NULL
Departure	DATETIME	Departure time of flight	NOT NULL
Arrival	DATETIME	Arrival time of the flight	NOT NULL

5)DISCOUNT

ATTRIBUTES	DATA TYPES	DESCRIPTION	CONSTRAINTS
DIID	Int	Unique row	Primary Key
Title	Varchar (50)	Title for discounts	NOT NULL
Damount	Int	Discount Amount	NOT NULL
Ddescription	Varchar (50)	Discount Description	

6)CHARGES

ATTRIBUTES	DATA TYPES	DESCRIPTION	CONSTRAINTS
CHID	Int	Unique row	Primary Key
Title	Varchar (50)	Label for charges	NOT NULL
Camount	Int	Charges Amount	NOT NULL
Cdescription	Varchar (50)	Charges Description	

7)COUNTRIES

ATTRIBUTES	DATA TYPES	DESCRIPTION	CONSTRAINTS
CTID	Int	Unique row	Primary Key
Country name	Varchar (50)	Name of the country	NOT NULL

8)STATE

ATTRIBUTE	DATA TYPE	DESCRIPTION	CONSTRAINTS
STID	INT	Unique Row ID	PRIMARY KEY
State_name	VARCHAR	State Name will be here	NOT NULL

9)CONTACT DETAILS

ATTRIBUTE	DATA TYPE	DESCRIPTION	CONSTRAINTS
CNID	INT	Unique ID for each Row	PRIMARY KEY
Email	VARCHAR	Email ID	NOT NULL
Contact_no	VARCHAR	Customer's Mobile Number	NOT NULL

10)PASSENGERS

ATTRIBUTE	DATA TYPE	DESCRIPTION	CONSTRAINTS
PSID	INT	Unique Passenger ID	PRIMARY KEY
Name	VARCHAR	Name of Passenger	NOT NULL
Address	VARCHAR	Address of Passenger	NOT NULL
Age	INT	Age of Passenger	NOT NULL
Nationality	VARCHAR	Nationality of Passenger	NOT NULL
Password	VARCHAR	Password to login	NOT NULL
Login_ID	VARCHAR	Login ID for login	NOT NULL

11)BRANCHES

ATTRIBUTE	DATA TYPE	DESCRIPTION	CONSTRAINTS
BRID	INT	Unique ID for each Branch	PRIMARY KEY
Centre	VARCHAR	Branch Title	NOT NULL
Address	VARCHAR	Address of the branch	NOT NULL

12)EMPLOYEES

ATTRIBUTE	DATA TYPE	DESCRIPTION	CONSTRAINTS
Emp_ID	INT	Unique ID for each Employee	PRIMARY KEY
Name	VARCHAR	Name of Employee	NOT NULL
Address	VARCHAR	Address of Employee	NOT NULL
Designation	VARCHAR	Designation of Employee	NOT NULL
Email	VARCHAR	Email ID of employee	NOT NULL
Tel_no	INT	Contact Number of employee	NOT NULL

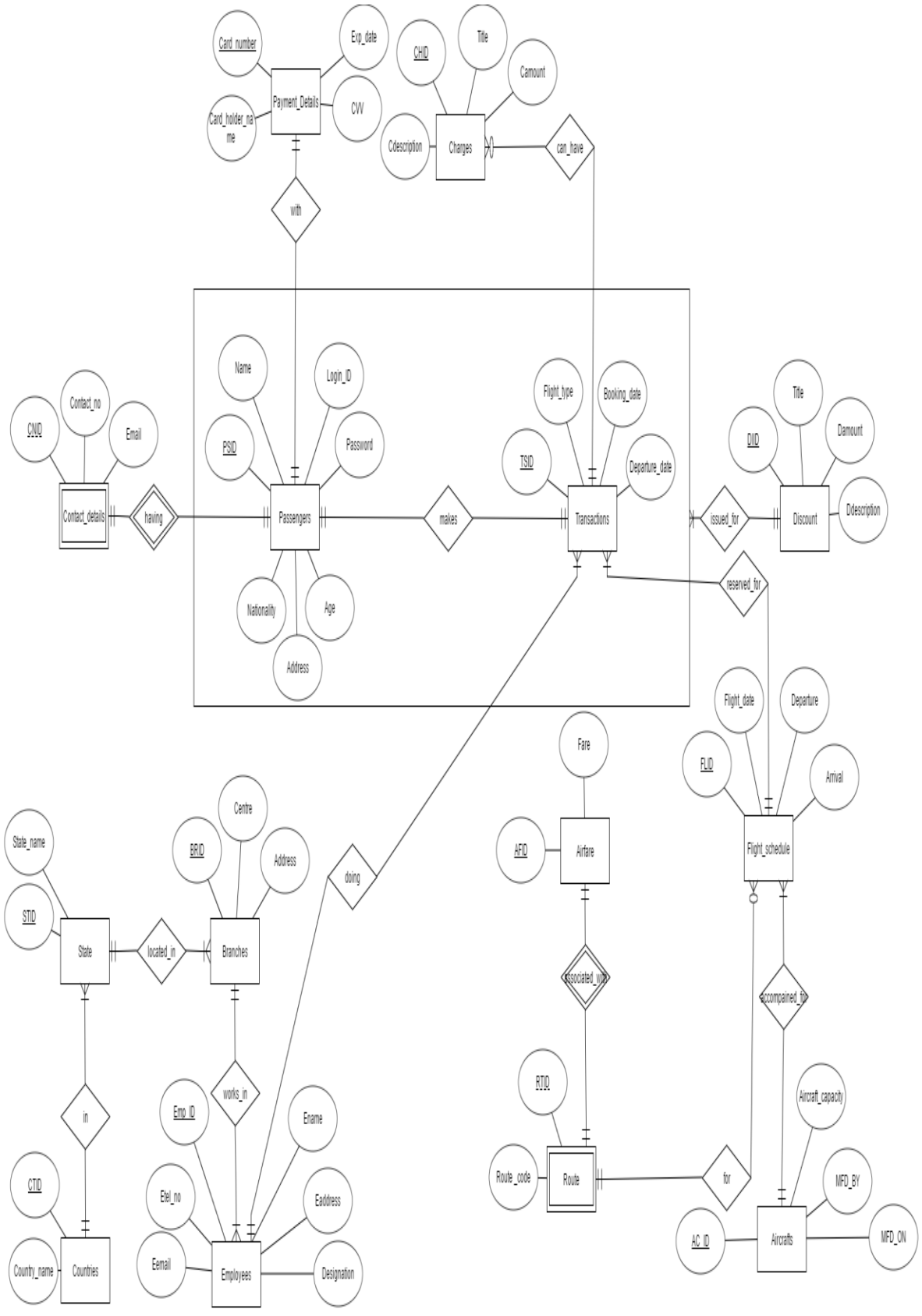
13)TRANSACTIONS

ATTRIBUTE	DATA TYPE	DESCRIPTION	CONSTRAINTS
TSID	INT	Transaction ID	PRIMARY KEY
Booking_date	DATE	Date of booking	NOT NULL
Departure_date	DATE	Date of departure	NOT NULL
Flight Type	VARCHAR	Type of flight undertaken	NOT NULL

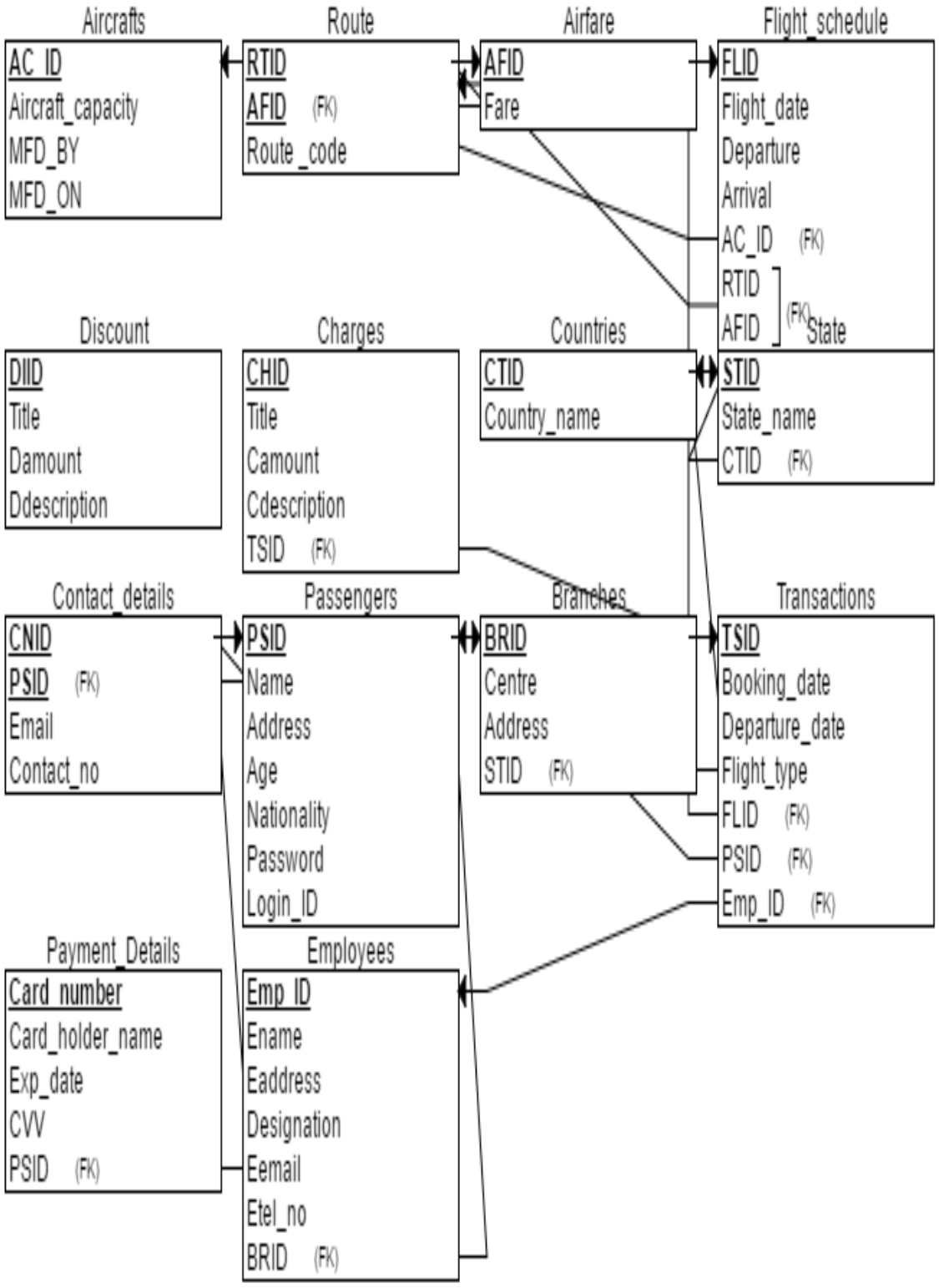
14)PAYMENT_DETAILS

ATTRIBUTE	DATA TYPE	DESCRIPTION	CONSTRAINTS
Card_number	INT	Card Number	PRIMARY KEY
Card_holder_name	VARCHAR	Card holder's name	NOT NULL
Exp_date	DATE	Expiry Date of Card	NOT NULL
CVV	INT	Card CVV number	NOT NULL

ER MODEL


Card_number
Exp_date
Payment_Details
CVV
Card_holder_name
with
CHID
Title
Camount
Cdescription
Charges
can_have
Name
Login_ID
PSID
Password
Contact_no
CNID
Email
Contact_details
having
Passengers
Nationality
Age
Address
makes
Flight_type
Booking_date
TSID
Departure_date
Transactions
issued_for
Title
DID
Damount
Discount
Ddescription
reserved_for
Flight_date
Departure
FLID
Arrival
Flight_schedule
Fare
AFID
Airfare
associated_with
accompained_by
RTID
Route_code
Route
for
Aircraft_capacity
MFD_BY
AC_ID
Aircrafts
MFD_ON
doing
Centre
BRID
Address
State_name
STID
State
located_in
Branches
in
works_in
CTID
Country_name
Countries
Emp_ID
Ename
Etel_no
Eaddress
Eemail
Employees
Designation

RELATIONAL SCHEMA



DETAILED PROCEDURE TO CONVERT ER MODEL TO RELATIONAL DATABASE:

- We make a table named Aircrafts with the attributes named AC_ID, Aircraft_capacity, MFD_BY, MFD_ON.
- We make a table named Route with the attributes named RTID, Route _code
- We make a table named Airfare with the attributes named AFID, Fare.
- We make a table named Flight Schedule which consists of FLID, Flight_date, Departure, Arrival.
- We make a table named Discount which consists of DIID, Title, Damount and Ddescription as attributes
- We make a table named Charges which consists of CHID, Title, Camount and Cdescription as attributes.
- We make a table named Countries which consists of CTID and Country_name as attributes.
- We make a table named State which has STID and State_name as table attributes.
- We make a table named Contact_details which has CNID, Email and Contact_no as attributes.
- We make a table named Passengers which consists of PSID, Name, Address, Age, Nationality, Login_ID and Password as attributes.
- We make a table called Branches having BRID, Centre and Address as attributes to the table.
- We make the table Employees having Emp_ID, Ename, Eaddress, Designation, Eemail and Etel_no as attributes to the table.
- We make a table Transactions which consists of TSID, Booking_date, Departure_date, Flight_type as table attributes.
- We then create a table Payment_Details which will contain Card_holder_name, Card_number, Exp_date, CVV as attributes to the table.

RELATIONAL DATABASE TABLE SCHEMA WITH SQL CODE

S NO.	ENTITY / RELATIONSHIP	DESCRIPTION	SQL CODE
1)	ENTITY - Aircrafts	----	CREATE TABLE Aircrafts (AC_ID INT NOT NULL, Aircraft_capacity INT NOT NULL, MFD_BY varchar (100) NOT NULL, MFD_ON DATE NOT NULL, PRIMARY KEY (AC_ID));
2)	ENTITY – Airfare	----	CREATE TABLE Airfare (AFID INT NOT NULL, Fare INT NOT NULL, PRIMARY KEY (AFID));
3)	ENTITY- Discount	----	CREATE TABLE Discount (DIID varchar (10) NOT NULL, Title varchar (50) NOT NULL, Damount INT NOT NULL, Ddescription varchar (50) NOT NULL, PRIMARY KEY (DIID));
4)	ENTITY- Countries	----	CREATE TABLE Countries (CTID varchar (50) NOT NULL, Country_name VARCHAR (50) NOT NULL, PRIMARY KEY (CTID));

5)	ENTITY- State	----	CREATE TABLE State (STID varchar (10) NOT NULL, State_name VARCHAR (50) NOT NULL, CTID INT NOT NULL, PRIMARY KEY (STID), FOREIGN KEY (CTID) REFERENCES Countries(CTID) ON DELETE CASCADE);
6)	ENTITY- Passengers	----	CREATE TABLE Passengers (PSID varchar (10) NOT NULL, Name varchar (50) NOT NULL, Address varchar (100) NOT NULL, Age INT NOT NULL, Nationality varchar (50) NOT NULL, Password varchar (50) NOT NULL, Login_ID varchar (50) NOT NULL, PRIMARY KEY (PSID));
7)	ENTITY- Branches	----	CREATE TABLE Branches (BRID varchar (50) NOT NULL, Centre varchar (50) NOT NULL, Address varchar (50) NOT NULL, STID varchar (50) NOT NULL, PRIMARY KEY (BRID), FOREIGN KEY (STID) REFERENCES State(STID) ON DELETE CASCADE);
8)	ENTITY- Payment_details	----	CREATE TABLE Payment_Details (Card_holder_name varchar (50) NOT NULL, Card_number INT NOT NULL, Exp_date DATE NOT NULL, CVV INT NOT NULL, PSID VARCHAR (10) NOT NULL, PRIMARY KEY (Card_number), FOREIGN KEY (PSID) REFERENCES Passengers(PSID) ON DELETE CASCADE);

9)	ENTITY-Employees	----	CREATE TABLE Employees (Emp_ID varchar (10) NOT NULL, Ename varchar (50) NOT NULL, Eaddress varchar (100) NOT NULL, Designation varchar (100) NOT NULL, Eemail varchar (100) NOT NULL, Etel_no BIGINT NOT NULL, BRID varchar (50) NOT NULL, PRIMARY KEY (Emp_ID), FOREIGN KEY (BRID) REFERENCES Branches(BRID) ON DELETE CASCADE);
10)	ENTITY-Route	----	CREATE TABLE Route (Route_code varchar (50) NOT NULL, RTID varchar (10) NOT NULL, AFID INT NOT NULL, PRIMARY KEY (RTID, AFID), FOREIGN KEY (AFID) REFERENCES Airfare(AFID) ON DELETE CASCADE);
11)	ENTITY-Flight_schedule	----	CREATE TABLE Flight_schedule (FLID INT NOT NULL, Flight_date Date NOT NULL, Departure Date NOT NULL, Arrival Date NOT NULL, AC_ID INT NOT NULL, RTID INT NOT NULL, AFID INT NOT NULL, PRIMARY KEY (FLID), FOREIGN KEY (AC_ID) REFERENCES Aircrafts(AC_ID) ON DELETE CASCADE, FOREIGN KEY (RTID) REFERENCES Route (RTID) ON DELETE CASCADE);

12)	ENTITY- Contact_details	----	CREATE TABLE Contact_details (CNID varchar(10)NOT NULL, Email varchar (50) NOT NULL, Contact_no varchar (15) NOT NULL, PSID varchar(10)NOT NULL, STID varchar (10) NOT NULL, PRIMARY KEY (CNID, PSID), FOREIGN KEY (PSID) REFERENCES Passengers(PSID) ON DELETE CASCADE, FOREIGN KEY (STID) REFERENCES State(STID) ON DELETE CASCADE);
13)	ENTITY- Transactions	----	CREATE TABLE Transactions (TSID varchar(10)NOT NULL, Booking_date DATETIME NOT NULL, Departure_date DATETIME NOT NULL, Flight_type varchar (30) NOT NULL, FLID varchar(10)NOT NULL, PSID varchar (10) NOT NULL, Emp_ID varchar (10) NOT NULL, PRIMARY KEY (TSID), FOREIGN KEY (FLID) REFERENCES Flight_schedule(FLID) ON DELETE CASCADE, FOREIGN KEY (PSID) REFERENCES Passengers(PSID) ON DELETE CASCADE, FOREIGN KEY (Emp_ID) REFERENCES Employees(Emp_ID) ON DELETE CASCADE);
14)	ENTITY- Charges	----	CREATE TABLE Charges (CHID varchar(10)NOT NULL, Title varchar (50) NOT NULL, Camount INT NOT NULL, Cdescription varchar (50) NOT NULL, TSID varchar(10)NOT NULL, PRIMARY KEY (CHID), FOREIGN KEY (TSID) REFERENCES Transactions(TSID) ON DELETE CASCADE);

15)	RELATIONSHIP-Makes	1)Participating Entities-Passenger and Transactions 2)Cardinality- One to one from Passenger to Transaction 3)Refer to the table Transaction for the definition	--------
16)	Relationship-Having	1)Participating entities- Passenger and Contact_detail 2)Cardinality- One to one from Passenger to Contact_details 3)Refer to the table Contact_details for the definition	---------
17)	Relationship-In	1)Participating entities- State and Countries 2)Cardinality- many to one from State to Country 3)Refer to the table State for the definition	---------
18)	Relationship-Doing	1)Participating entities- Employees and Transaction 2)Cardinality- many to one from Transaction to Employees 3)Refer to the table Transaction for the definition	---------

19)	Relationship- Works_in	1)Participating entities- Employees and Branches 2)Cardinality-many to one from Employees to Branches 3)Refer to the table Employees for the definition	--------
20)	Relationship- for	1)Participating entities- Flight_schedule and Route 2)Cardinality- many to one from Flight_schedule to route 3)Refer to the table Flight_schedule for the definition	--------
21)	Relationship- Accompanied_by	1)Participating entities- Flight_schedule and Aircraft 2)Cardinality- many to one from Flight_schedule to Aircraft 3)Refer to the table Flight_schedule for the definition	--------
22)	Relationship- Associated_with	1)Participating entities- Airfare and Route 2)Cardinality- one to one from Airfare to Route 3)Refer to the table Route for the definition	-------

23)	Relationship-with	1)Participating entities- Passenger and Payment_details 2)Cardinality- one to one from passenger to Payment_details 3)Refer to the table Payment_details for the definition	------
24)	Relationship-Can_have	1)Participating entities- Transaction and Charges 2)Cardinality- many to one from Charges to Transaction 3)Refer to the table Charges for the definition	------
25)	Relationship-Located_in	1)Participating entities- State and Countries 2)Cardinality- many to one from State to Country 3)Refer to the table State for the definition	------
26)	Relationship-Reserved_for	1)Participating entities- Transaction and Flight_schedule 2)Cardinality- many to one from Transaction to Flight_schedule 3)Refer to the table transaction for the definition	------

27)	Relationship- Issued_for	1)Participating entities- Discount and (Passenger makes Transaction) 2)Cardinality- one to many from Discount and (Passenger makes Transaction) 3)Refer to the table Discount for the definition	-------

FUNCTIONAL DEPENDENCIES (FD'S)

1) Table Aircrafts

R= {AC_ID, Aircraft_capacity, MFD_BY, MFD_ON}

Key1={AC_ID}
Non- key attributes= {Aircraft_capacity, MFD_BY, MFD_ON}

F= {

AC_ID -> Aircraft_capacity

AC_ID -> MFD_BY

AC_ID -> MFD_ON

}

Table Aircraft is in BCNF

Steps-

- Since there are no multi-valued attributes (AC_ID)so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key (AC_ID) as the candidate key consist of only attribute therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

2) Table Route

R= {RTID, Route _code}

Key1={RTID}

F = {

RTID ->-> Route _code}

Table Route is in 4NF

Steps-

- Since there are no multi-valued attributes(RTID) so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of only attribute(RTID) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF
- Since there is only one MVD where the RTID, Route_code=R so the given table is in 4NF

3) Table Airfare

R= {AFID, Fare}

Key1= {AFID}
F= {
AFID -> Fare
}

The table Airfare is in BCNF

Steps-

- Since there are no multi-valued attributes(AFID)so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of only attribute(AFID) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF

- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

4) Table Flight_schedule

R= {FLID, Flight_date, Departure, Arrival}

Key1= {FLID, Flight_date}
Key2= {FLID, Departure}

F= {

FLID, Flight_date ->Departure

FLID, Departure-> Arrival

}

The table is in 3NF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of attributes (FLID, Departure) and (FLID, Flight_date) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF

5) Table Discount

R= {DIID, Title, Damount, Ddescription}

Key1= {DIID, Ddescription}

Key2= {DIID, title}

F= {

DIID, Ddescription -> Title, Damount

Title, DIID -> Damount

}

The table Discount is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of attributes(DIID, Ddescription) and (DIID, title) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

6) Table Charges

R= {CHID, Title, Camount, Cdescription}

Key1= {CHID, Cdescription}

Key2= {CHID, Title}

F= {

CHID, Cdescription -> Title, Camount

Title, CHID -> Camount

}

The table Discount is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of attributes(CHID, Cdescription) and (CHID, Title) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF

- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

7) Table Countries

R= {CTID, Country_name}

Key1= {CTID}

F= {

CTID -> Country_name

}

}

The table Airfare is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of only attribute(CTID) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

8) Table State

R= {STID, State_name}

Key= {STID}

F= {

STID -> State_name

}

}

The table State is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of only attribute (STID)therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

9) Table Contact_details

R= {CNID, Email, Contact_no}

Key1= {CNID}

F= {

CNID -> Contact_no, Email

}

The table Contact_details is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of only attribute(CNID) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF

- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

10) **Table Passengers**

R= {PSID, Name, Address, Age, Nationality, Login_ID, Password}

Key1= {PSID}

Key2= {Login_ID, Password}

F= {

PSID -> Login_ID, Password

Login_ID, Password-> Name, Address, PSID

Login_ID, Password -> Nationality, Age

}

The table Passengers is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key
- as the candidate key consist of attributes(PSID) and (Login_ID, Password) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

11) **Table Branches**

R= {BRID, Centre, Address}

Key1={BRID}

F= {

BRID -> Centre, Address

}

The Branches is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of only attribute(BRID) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

12) **Table Employees**

R= {Emp_ID, Ename, Eaddress, Designation, Eemail, Etel_no}

Key = {Emp_ID}

F= {

Emp_ID ->Ename, Eemail, Etel_no, Eaddress

Emp_ID->Designation

}

The table Employees is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key
- as the candidate key consist of only attribute (Emp_ID)therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF

Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

13) **Table Transactions**

R= {TSID, Booking_date, Departure_date, Flight_type}
Key1={TSID}

F= {

TSID -> Booking_date

TSID -> Departure_date

TSID -> Flight_type

}

The table Transaction is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key
- as the candidate key consist of only attribute(TSID) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

15) **Table Payment_Details**

R= {Card_holder_name, Card_number, Exp_date, CVV}

Key1 = {Card_number, CVV}

F= {

Exp_date, CVV -> Card_number

Card_holder_name, CVV ->Exp_date

Card_number, CVV -> Card_holder_name

}

Table Payment_details is in BCNF

Steps-

- Since there are no multi-valued attributes so the given table is in 1NF
- Since no non-prime attributes are dependent upon the subset of the key as the candidate key consist of attribute(Card_number, CVV) therefore, the given table is in 2NF
- In the given above FD's all the left side is a candidate key and all the non-key attribute are dependent directly upon the key therefore the given table is in 3NF
- Since no non-key attribute is dependent upon a non-key attribute and there is non-key attribute which is transitively dependent upon key so the given table is in BCNF

SAMPLE OUTPUT OF FINAL NORMALISED DATABASE TABLE WITH SOME DATA

1. Table Charges

```
194  CREATE TABLE Charges(CHID varchar(10) NOT NULL, Title varchar(50) NOT NULL, Camount INT NOT NULL, Cdescription varchar(50) NOT NULL, TSID varchar(10) NOT NULL,
195      PRIMARY KEY (CHID), FOREIGN KEY (TSID) REFERENCES Transactions(TSID) ON DELETE CASCADE);
196  insert into Charges values("CH100", "Airfare Charges", 9700, "Charges for Flight", "TR100");
197  insert into Charges values("CH101", "Fuel Charges", 2300, "Charges for Fuel", "TR101");
198  insert into Charges values("CH102", "Airfare Charges", 8900, "Charges for Flight", "TR102");
199  insert into Charges values("CH103", "Airfare Charges", 10000, "Charges for Flight", "TR103");
200  insert into Charges values("CH104", "Airfare Charges", 6400, "Charges for Flight", "TR104");
201  insert into Charges values("CH105", "Additional Charges", 600, "Oveerhead Expenses", "TR105");
202  insert into Charges values("CH106", "Airfare Charges", 2300, "Charges for Flight", "TR106");
203  insert into Charges values("CH107", "Tax+Fooding Charges", 5600, "Tax plus Charges for Food", "TR107");
204  insert into Charges values("CH108", "Airfare Charges", 17000, "Charges for Flight", "TR108");
205  insert into Charges values("CH109", "Airfare Charges", 35800, "Charges for Flight", "TR109");
206  select * from Charges;
207
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CHID	Title	Camount	Cdescription	TSID
CH100	Airfare Charges	9700	Charges for Flight	TR100
CH101	Fuel Charges	2300	Charges for Fuel	TR101
CH102	Airfare Charges	8900	Charges for Flight	TR102
CH103	Airfare Charges	10000	Charges for Flight	TR103
CH104	Airfare Charges	6400	Charges for Flight	TR104
CH105	Additional Charges	600	Oveerhead Expenses	TR105
CH106	Airfare Charges	2300	Charges for Flight	TR106
CH107	Tax+Fooding Charges	5600	Tax plus Charges for Food	TR107
CH108	Airfare Charges	17000	Charges for Flight	TR108
CH109	Airfare Charges	35800	Charges for Flight	TR109

2. Table Transactions

```
179  CREATE TABLE Transactions(TSID varchar(10) NOT NULL, Booking_date datetime NOT NULL, Departure_date datetime NOT NULL, Flight_type varchar(30) NOT NULL,
180  FLID varchar(10) NOT NULL, PSID varchar(10) NOT NULL, Emp_ID varchar(10) NOT NULL, PRIMARY KEY (TSID), FOREIGN KEY (FLID) REFERENCES Flight_schedule(FLID) ON DELETE CASCADE,
181  FOREIGN KEY (PSID) REFERENCES Passengers(PSID) ON DELETE CASCADE, FOREIGN KEY (Emp_ID) REFERENCES Employees(Emp_ID) ON DELETE CASCADE);
182  insert into Transactions values("TR100",'2016-11-01 14:30:12','2017-01-21 07:00:00', "Indigo", "FL100","P100", "E100");
183  insert into Transactions values("TR101",'2016-09-01 16:30:00','2017-02-22 09:00:00', "Air India", "FL101","P101", "E101");
184  insert into Transactions values("TR102",'2016-12-01 04:00:12','2017-03-23 09:30:00', "Qatar Airways", "FL102","P102", "E102");
185  insert into Transactions values("TR103",'2016-12-01 18:30:32','2017-04-24 10:00:00', "Sun Country", "FL103","P103", "E103");
186  insert into Transactions values("TR104",'2016-10-01 11:34:22','2017-05-25 11:00:00', "Cathay Pacific", "FL104","P104", "E104");
187  insert into Transactions values("TR105",'2016-10-01 10:30:14','2017-06-26 12:00:00', "Czech Airways", "FL105","P105", "E105");
188  insert into Transactions values("TR106",'2016-11-01 09:43:21','2017-07-27 12:30:00', "Emirates International", "FL106","P106", "E106");
189  insert into Transactions values("TR107",'2016-10-01 19:21:12','2017-08-28 13:00:00', "Iberia", "FL107","P107", "E107");
190  insert into Transactions values("TR108",'2016-12-01 20:44:32','2017-08-28 14:40:00', "Japan Airlines", "FL108","P108", "E108");
191  insert into Transactions values("TR109",'2016-09-01 22:12:54','2017-09-29 16:00:00', "Jet Airways", "FL109","P109", "E109");
192  select * from Transactions;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

TSID	Booking_date	Departure_date	Flight_type	FLID	PSID	Emp_ID
TR100	2016-11-01 14:30:12	2017-01-21 07:00:00	Indigo	FL100	P100	E100
TR101	2016-09-01 16:30:00	2017-02-22 09:00:00	Air India	FL101	P101	E101
TR102	2016-12-01 04:00:12	2017-03-23 09:30:00	Qatar Airways	FL102	P102	E102
TR103	2016-12-01 18:30:32	2017-04-24 10:00:00	Sun Country	FL103	P103	E103
TR104	2016-10-01 11:34:22	2017-05-25 11:00:00	Cathay Pacific	FL104	P104	E104
TR105	2016-10-01 10:30:14	2017-06-26 12:00:00	Czech Airways	FL105	P105	E105
TR106	2016-11-01 09:43:21	2017-07-27 12:30:00	Emirates International	FL106	P106	E106
TR107	2016-10-01 19:21:12	2017-08-28 13:00:00	Iberia	FL107	P107	E107
TR108	2016-12-01 20:44:32	2017-08-28 14:40:00	Japan Airlines	FL108	P108	E108
TR109	2016-09-01 22:12:54	2017-09-29 16:00:00	Jet Airways	FL109	P109	E109

3. Table Contact_details

```
CREATE TABLE Contact_details(CNID varchar(10) NOT NULL, Email varchar(30) NOT NULL, Contact_no varchar(15) NOT NULL, PSID varchar(10) NOT NULL,
    STID varchar(10) NOT NULL, PRIMARY KEY (CNID, PSID), FOREIGN KEY (PSID) REFERENCES Passengers(PSID) ON DELETE CASCADE,
    FOREIGN KEY (STID) REFERENCES State(STID) ON DELETE CASCADE);
insert into Contact_details values("CN100", "anuraag@gmail.com", "9671838411", "P100", "S100");
insert into Contact_details values("CN101", "jordan@gmail.com", "9671838422", "P101", "S101" );
insert into Contact_details values("CN102", "nicole@gmail.com", "9671838433", "P102", "S102" );
insert into Contact_details values("CN103", "bichjade@gmail.com", "9671838444", "P103", "S103" );
insert into Contact_details values("CN104", "dinda@gmail.com", "9671838455", "P104", "S104" );
insert into Contact_details values("CN105", "aylin@gmail.com", "9671838466", "P105", "S105" );
insert into Contact_details values("CN106", "julia@gmail.com", "9671838477", "P106", "S106" );
insert into Contact_details values("CN107", "karabou@gmail.com", "9671838488", "P107", "S107" );
insert into Contact_details values("CN108", "helen@gmail.com", "9671838499", "P108", "S108" );
insert into Contact_details values("CN109", "sofia@gmail.com", "9671838400", "P109", "S109" );
select * from Contact_details;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CNID	Email	Contact_no	PSID	STID
CN100	anuraag@gmail.com	9671838411	P100	S100
CN101	jordan@gmail.com	9671838422	P101	S101
CN102	nicole@gmail.com	9671838433	P102	S102
CN103	bichjade@gmail.com	9671838444	P103	S103
CN104	dinda@gmail.com	9671838455	P104	S104
CN105	aylin@gmail.com	9671838466	P105	S105
CN106	julia@gmail.com	9671838477	P106	S106
CN107	karabou@gmail.com	9671838488	P107	S107
CN108	helen@gmail.com	9671838499	P108	S108
CN109	sofia@gmail.com	9671838400	P109	S109

4. Table Flight_schedule

```
CREATE TABLE Flight_schedule( FLID varchar(10) NOT NULL, Flight_date date NOT NULL, Departure datetime NOT NULL, Arrival datetime NOT NULL, AC_ID INT NOT NULL,
    RTID varchar(10) NOT NULL, AFID INT NOT NULL, PRIMARY KEY (FLID), FOREIGN KEY (AC_ID) REFERENCES Aircrafts(AC_ID) ON DELETE CASCADE,
    FOREIGN KEY (RTID) REFERENCES Route (RTID) ON DELETE CASCADE);
insert into Flight_schedule values("FL100", '2017-01-21', '2017-01-21 07:00:00', '2017-01-21 08:00:00', 2324, "R100", 400);
insert into Flight_schedule values("FL101", '2017-02-22', '2017-02-22 09:00:00', '2017-02-22 10:00:00', 2325, "R101", 401);
insert into Flight_schedule values("FL102", '2017-03-23', '2017-03-23 09:30:00', '2017-03-23 11:00:00', 2326, "R102", 402);
insert into Flight_schedule values("FL103", '2017-04-24', '2017-04-24 10:00:00', '2017-04-24 11:30:00', 2327, "R103", 403);
insert into Flight_schedule values("FL104", '2017-05-25', '2017-05-25 11:00:00', '2017-05-25 11:45:00', 2328, "R104", 404);
insert into Flight_schedule values("FL105", '2017-06-26', '2017-06-26 12:00:00', '2017-06-26 13:30:00', 2329, "R105", 405);
insert into Flight_schedule values("FL106", '2017-07-27', '2017-07-27 12:30:00', '2017-07-27 13:45:00', 2330, "R106", 406);
insert into Flight_schedule values("FL107", '2017-08-28', '2017-08-28 13:00:00', '2017-08-28 14:30:00', 2331, "R107", 407);
insert into Flight_schedule values("FL108", '2017-08-28', '2017-08-28 14:40:00', '2017-08-28 15:50:00', 2332, "R108", 408);
insert into Flight_schedule values("FL109", '2017-09-29', '2017-09-29 16:00:00', '2017-09-29 19:50:00', 2333, "R109", 409);
select * from Flight_schedule;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

FLID	Flight_date	Departure	Arrival	AC_ID	RTID	AFID
FL100	2017-01-21	2017-01-21 07:00:00	2017-01-21 08:00:00	2324	R100	400
FL101	2017-02-22	2017-02-22 09:00:00	2017-02-22 10:00:00	2325	R101	401
FL102	2017-03-23	2017-03-23 09:30:00	2017-03-23 11:00:00	2326	R102	402
FL103	2017-04-24	2017-04-24 10:00:00	2017-04-24 11:30:00	2327	R103	403
FL104	2017-05-25	2017-05-25 11:00:00	2017-05-25 11:45:00	2328	R104	404
FL105	2017-06-26	2017-06-26 12:00:00	2017-06-26 13:30:00	2329	R105	405
FL106	2017-07-27	2017-07-27 12:30:00	2017-07-27 13:45:00	2330	R106	406
FL107	2017-08-28	2017-08-28 13:00:00	2017-08-28 14:30:00	2331	R107	407
FL108	2017-08-28	2017-08-28 14:40:00	2017-08-28 15:50:00	2332	R108	408
FL109	2017-09-29	2017-09-29 16:00:00	2017-09-29 19:50:00	2333	R109	409

5. Table Employees

```
CREATE TABLE Employees(Emp_ID Varchar(10) NOT NULL,Ename Varchar(30) NOT NULL,Eaddress Varchar(50) NOT NULL,Designation Varchar(15) NOT NULL,
    Eemail Varchar(20) NOT NULL, Etel_no INT NOT NULL,BRID Varchar(10) NOT NULL, PRIMARY KEY (Emp_ID),FOREIGN KEY (BRID) REFERENCES Branches(BRID) ON DELETE CASCADE);
insert into Employees values("E100", "Ramesh",  "P1/2, Hosiyar Enclave", "General Manager", "ramesh@gmail.com", 234567859, "B100" );
insert into Employees values("E101", "Rajesh",  "Q1/2, Salaria Enclave", "Manager", "rajesh@gmail.com", 234567860, "B101" );
insert into Employees values("E102", "Suresh",  "P1/2, K.L.P. Enclave", "Supreme Manager", "suresh@gmail.com", 234567861, "B102" );
insert into Employees values("E103", "Bhuvesh",  "P1/2, S.F. Enclave", "Chairman", "bhuvesh@gmail.com", 234567862, "B103" );
insert into Employees values("E104", "Isabella",  "P1/2, D.A Enclave", "C.E.O", "isabella@gmail.com", 234567863, "B104" );
insert into Employees values("E105", "Cinrella",  "P1/2, Q.E Enclave", "Dir. Manager", "cinrella@gmail.com", 234567864, "B105" );
insert into Employees values("E106", "Emma",  "P1/2, J.I Enclave", "Officer", "emma@gmail.com", 234567865, "B106" );
insert into Employees values("E107", "Olivia",  "P1/2, K.B Enclave", "Dir. Manager", "olivia@gmail.com", 234567866, "B107" );
insert into Employees values("E108", "Mikasa",  "P1/2, Thomas Enclave", "Director", "mikasa@gmail.com", 234567867, "B108" );
insert into Employees values("E109", "Misa",  "P1/2, Pittsberg Enclave", "Hornally Offr.", "misa@gmail.com", 234567869, "B109" );
select * from Employees;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

Emp_ID	Ename	Eaddress	Designation	Eemail	Etel_no	BRID
E100	Ramesh	P1/2, Hosiyar Enclave	General Manager	ramesh@gmail.com	234567859	B100
E101	Rajesh	Q1/2, Salaria Enclave	Manager	rajesh@gmail.com	234567860	B101
E102	Suresh	P1/2, K.L.P. Enclave	Supreme Manager	suresh@gmail.com	234567861	B102
E103	Bhuvesh	P1/2, S.F. Enclave	Chairman	bhuvesh@gmail.com	234567862	B103
E104	Isabella	P1/2, D.A Enclave	C.E.O	isabella@gmail.com	234567863	B104
E105	Cinrella	P1/2, Q.E Enclave	Dir. Manager	cinrella@gmail.com	234567864	B105
E106	Emma	P1/2, J.I Enclave	Officer	emma@gmail.com	234567865	B106
E107	Olivia	P1/2, K.B Enclave	Dir. Manager	olivia@gmail.com	234567866	B107
E108	Mikasa	P1/2, Thomas Enclave	Director	mikasa@gmail.com	234567867	B108
E109	Misa	P1/2, Pittsberg Enclave	Hornally Offr.	misa@gmail.com	234567869	B109

6. Table Route

```
CREATE TABLE Route( Route_code varchar(10) NOT NULL, RTID varchar(10) NOT NULL, AFID int NOT NULL, PRIMARY KEY (RTID, AFID), FOREIGN KEY (AFID)
    REFERENCES Airfare(AFID) ON DELETE CASCADE);
insert into Route values("RC100","R100", 400 );
insert into Route values("RC101","R101", 401 );
insert into Route values("RC102","R102", 402 );
insert into Route values("RC103","R103", 403 );
insert into Route values("RC104","R104", 404 );
insert into Route values("RC105","R105", 405 );
insert into Route values("RC106","R106", 406 );
insert into Route values("RC107","R107", 407 );
insert into Route values("RC108","R108", 408 );
insert into Route values("RC109","R109", 409 );
select * from Route;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

Route_code	RTID	AFID
RC100	R100	400
RC101	R101	401
RC102	R102	402
RC103	R103	403
RC104	R104	404
RC105	R105	405
RC106	R106	406
RC107	R107	407
RC108	R108	408
RC109	R109	409

7. Table Branches

```
90  CREATE TABLE Branches( BRID varchar(10) NOT NULL, Centre varchar(40) NOT NULL, Address varchar(50) NOT NULL, STID varchar(10) NOT NULL, PRIMARY KEY (BRID),
91      FOREIGN KEY (STID) REFERENCES State(STID) ON DELETE CASCADE);
92  insert into Branches values("B100", "Kempegowda International", "P1/2, Hosiyar Enclave", "S100");
93  insert into Branches values("B101", "Sde Dov Airp.", "Q1/2, Salaria Enclave", "S101");
94  insert into Branches values("B102", "Ninoy Aquino ", "P1/2, K.L.P. Enclave", "S102");
95  insert into Branches values("B103", "Cam Ranh International", "P1/2, S.F. Enclave", "S103");
96  insert into Branches values("B104", "Ngurah Rai", "P1/2, D.A Enclave", "S104");
97  insert into Branches values("B105", "Baghdad International", "P1/2, Q.E Enclave", "S105");
98  insert into Branches values("B106", "Flugschule Bruno", "P1/2, J.I Enclave", "S106");
99  insert into Branches values("B107", "King Shaka", "P1/2, K.B Enclave", "S107");
100 insert into Branches values("B108", "Donaldson Center", "P1/2, Thomas Enclave", "S108");
101 insert into Branches values("B109", "Toledo Express", "P1/2, Pittsberg Enclave", "S109");
102 select * from Branches;
103
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

BRID	Centre	Address	STID
B100	Kempegowda International	P1/2, Hosiyar Enclave	S100
B101	Sde Dov Airp.	Q1/2, Salaria Enclave	S101
B102	Ninoy Aquino	P1/2, K.L.P. Enclave	S102
B103	Cam Ranh International	P1/2, S.F. Enclave	S103
B104	Ngurah Rai	P1/2, D.A Enclave	S104
B105	Baghdad International	P1/2, Q.E Enclave	S105
B106	Flugschule Bruno	P1/2, J.I Enclave	S106
B107	King Shaka	P1/2, K.B Enclave	S107
B108	Donaldson Center	P1/2, Thomas Enclave	S108
B109	Toledo Express	P1/2, Pittsberg Enclave	S109

8. Table Payment_details

```
104  CREATE TABLE Payment_Details( Card_holder_name varchar(30) NOT NULL, Card_number INT NOT NULL, Exp_date date NOT NULL, CVV INT NOT NULL, PSID varchar(10) NOT NULL,
105      PRIMARY KEY (Card_number), FOREIGN KEY (PSID) REFERENCES Passengers(PSID) ON DELETE CASCADE);
106  insert into Payment_Details values("Anuraag", 20406080, '2022-01-01', 123, "P100");
107  insert into Payment_Details values("Jordan", 20406081, '2022-02-02', 124, "P101");
108  insert into Payment_Details values("Nicole ", 20406082, '2022-03-03', 125, "P102");
109  insert into Payment_Details values("Bichjade",  20406083, '2022-04-04', 126, "P103");
110  insert into Payment_Details values("Dinda",  20406084, '2022-05-05', 127, "P104");
111  insert into Payment_Details values("Aylin",  20406085, '2022-06-06', 128, "P105");
112  insert into Payment_Details values("Julia",  20406086, '2022-07-07', 129, "P106");
113  insert into Payment_Details values("Karabou",  20406087, '2022-08-08', 133, "P107");
114  insert into Payment_Details values("Helen",  20406088, '2022-09-09', 143, "P108");
115  insert into Payment_Details values("Sofia",   20406089, '2022-10-10', 153, "P109");
116  select * from Payment_Details;
117
```

Result Grid

Card_holder_name	Card_number	Exp_date	CVV	PSID
Anuraag	20406080	2022-01-01	123	P100
Jordan	20406081	2022-02-02	124	P101
Nicole	20406082	2022-03-03	125	P102
Bichjade	20406083	2022-04-04	126	P103
Dinda	20406084	2022-05-05	127	P104
Aylin	20406085	2022-06-06	128	P105
Julia	20406086	2022-07-07	129	P106
Karabou	20406087	2022-08-08	133	P107
Helen	20406088	2022-09-09	143	P108
Sofia	20406089	2022-10-10	153	P109

9. Table State

```
61  CREATE TABLE State( STID varchar(10) NOT NULL, State_name Varchar(30) NOT NULL, CTID varchar(10) NOT NULL, PRIMARY KEY (STID),
62      FOREIGN KEY (CTID) REFERENCES Countries(CTID) ON DELETE CASCADE);
63  insert into State values("S100", "Banglore", "C100");
64  insert into State values("S101", "Irbid", "C101");
65  insert into State values("S102", "Manila", "C102");
66  insert into State values("S103", "Khanh Hoa", "C103");
67  insert into State values("S104", "Bali", "C104");
68  insert into State values("S105", "Iraq", "C105");
69  insert into State values("S106", "Tirol", "C106");
70  insert into State values("S107", "Durban", "C107");
71  insert into State values("S108", "Sparta", "C108");
72  insert into State values("S109", "Toledo", "C109");
73  select * from State;
74
```

Result Grid

STID	State_name	CTID
S100	Banglore	C100
S101	Irbid	C101
S102	Manila	C102
S103	Khanh Hoa	C103
S104	Bali	C104
S105	Iraq	C105
S106	Tirol	C106
S107	Durban	C107
S108	Sparta	C108
S109	Toledo	C109

10. Table Passengers

```
CREATE TABLE Passengers( PSID varchar(10) NOT NULL, Name varchar(30) NOT NULL, Address varchar(50) NOT NULL, Age INT NOT NULL,
    Nationality varchar(20) NOT NULL, Password INT NOT NULL, Login_ID INT NOT NULL,PRIMARY KEY (PSID));
insert into Passengers values("P100", "Anuraag", "P1/2, Hosiyar Enclave", 20, "Indian", 12345, 100);
insert into Passengers values("P101", "Jordan", "Q1/2, Salaria Enclave", 22, "Indian", 13445, 101);
insert into Passengers values("P102", "Nicole ", "P1/2, K.L.P. Enclave", 24, "Indian", 92745, 102);
insert into Passengers values("P103", "Bichjade", "P1/2, S.F. Enclave", 21, "Indian", 89345, 103);
insert into Passengers values("P104", "Dinda", "P1/2, D.A Enclave", 26, "Indian", 88345, 104);
insert into Passengers values("P105", "Aylin", "P1/2, Q.E Enclave", 27, "Indian", 92345, 105);
insert into Passengers values("P106", "Julia", "P1/2, J.I Enclave", 24, "Indian", 18345, 106);
insert into Passengers values("P107", "Karabou", "P1/2, K.B Enclave", 28, "Indian", 15645, 107);
insert into Passengers values("P108", "Helen", "P1/2, Thomas Enclave", 29, "Indian", 11345, 108);
insert into Passengers values("P109", "Sofia", "P1/2, Pittsberg Enclave", 23, "Indian", 55675, 109);
select * from Passengers;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

PSID	Name	Address	Age	Nationality	Password	Login_ID
P100	Anuraag	P1/2, Hosiyar Enclave	20	Indian	12345	100
P101	Jordan	Q1/2, Salaria Enclave	22	Indian	13445	101
P102	Nicole	P1/2, K.L.P. Enclave	24	Indian	92745	102
P103	Bichjade	P1/2, S.F. Enclave	21	Indian	89345	103
P104	Dinda	P1/2, D.A Enclave	26	Indian	88345	104
P105	Aylin	P1/2, Q.E Enclave	27	Indian	92345	105
P106	Julia	P1/2, J.I Enclave	24	Indian	18345	106
P107	Karabou	P1/2, K.B Enclave	28	Indian	15645	107
P108	Helen	P1/2, Thomas Enclave	29	Indian	11345	108
P109	Sofia	P1/2, Pittsberg Enclave	23	Indian	55675	109

11. Table Discount

```
CREATE TABLE Discount(DIID varchar(10) NOT NULL, Title varchar(50) NOT NULL, Damount_in_percent INT NOT NULL, Ddescription varchar(50) NOT NULL, PRIMARY KEY (DIID));
insert into Discount values("D100", "Diwali Discount", 8, "Discount for Diwali Festival");
insert into Discount values("D101", "Diwali Discount", 8, "Discount for Diwali Festival");
insert into Discount values("D102", "Diwali Discount", 8, "Discount for Diwali Festival");
insert into Discount values("D103", "Summer Surprise Discount", 8, "Discount for Summers");
insert into Discount values("D104", "Summer Surprise Discount", 8, "Discount for Summers");
insert into Discount values("D105", "Summer Surprise Discount", 8, "Discount for Summers");
insert into Discount values("D106", "Easter Discount", 8, "Discount for Easter Eve");
insert into Discount values("D107", "Easter Discount", 8, "Discount for Easter Eve");
insert into Discount values("D108", "Easter Discount", 8, "Discount for Easter Eve");
insert into Discount values("D109", "Easter Discount", 8, "Discount for Easter Eve");
select * from Discount;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

DIID	Title	Damount_in_percent	Ddescription
D100	Diwali Discount	8	Discount for Diwali Festival
D101	Diwali Discount	8	Discount for Diwali Festival
D102	Diwali Discount	8	Discount for Diwali Festival
D103	Summer Surprise Discount	8	Discount for Summers
D104	Summer Surprise Discount	8	Discount for Summers
D105	Summer Surprise Discount	8	Discount for Summers
D106	Easter Discount	8	Discount for Easter Eve
D107	Easter Discount	8	Discount for Easter Eve
D108	Easter Discount	8	Discount for Easter Eve
D109	Easter Discount	8	Discount for Easter Eve

12. Table Countries

```
47  CREATE TABLE Countries( CTID varchar(10) NOT NULL, Country_name varchar(50) NOT NULL, PRIMARY KEY (CTID));
48  insert into Countries values("C100", "India");
49  insert into Countries values("C101", "Jordan");
50  insert into Countries values("C102", "Philippines");
51  insert into Countries values("C103", "Vietnam");
52  insert into Countries values("C104", "Indonesia");
53  insert into Countries values("C105", "Turkey");
54  insert into Countries values("C106", "Austria");
55  insert into Countries values("C107", "South Africa");
56  insert into Countries values("C108", "Greece");
57  insert into Countries values("C109", "Spain");
58  select * from Countries;
59
60
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CTID	Country_name
C100	India
C101	Jordan
C102	Philippines
C103	Vietnam
C104	Indonesia
C105	Turkey
C106	Austria
C107	South Africa
C108	Greece
C109	Spain

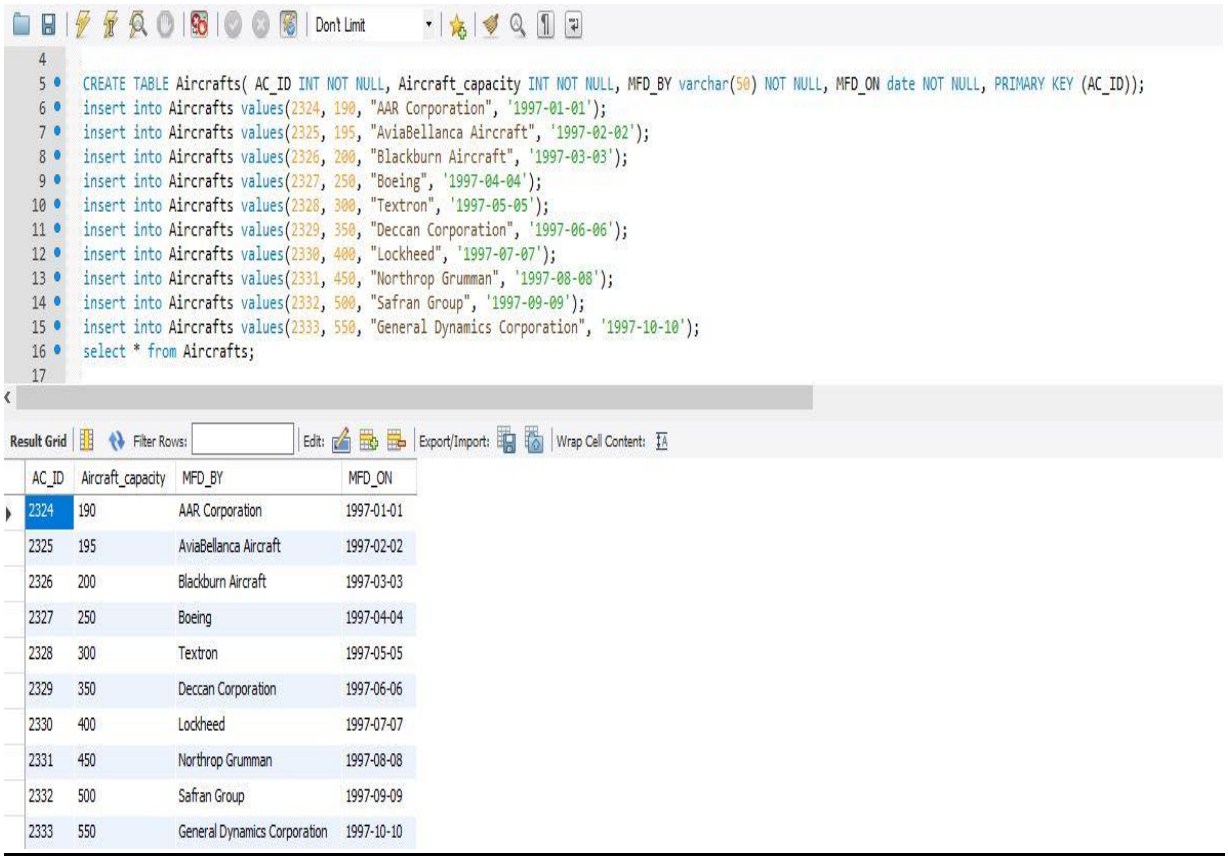
13. Table Airfare

```
19  CREATE TABLE Airfare( AFID INT NOT NULL, Fare INT NOT NULL, PRIMARY KEY (AFID));
20
21  insert into Airfare values(400, 5000);
22  insert into Airfare values(401, 5500);
23  insert into Airfare values(402, 6000);
24  insert into Airfare values(403, 6500);
25  insert into Airfare values(404, 7000);
26  insert into Airfare values(405, 7500);
27  insert into Airfare values(406, 8000);
28  insert into Airfare values(407, 8500);
29  insert into Airfare values(408, 9000);
30  insert into Airfare values(409, 9500);
31  select * from Airfare;
32
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

AFID	Fare
400	5000
401	5500
402	6000
403	6500
404	7000
405	7500
406	8000
407	8500
408	9000
409	9500

14. Aircrafts



```
4
5  CREATE TABLE Aircrafts( AC_ID INT NOT NULL, Aircraft_capacity INT NOT NULL, MFD_BY varchar(50) NOT NULL, MFD_ON date NOT NULL, PRIMARY KEY (AC_ID));
6  insert into Aircrafts values(2324, 190, "AAR Corporation", '1997-01-01');
7  insert into Aircrafts values(2325, 195, "AviaBellanca Aircraft", '1997-02-02');
8  insert into Aircrafts values(2326, 200, "Blackburn Aircraft", '1997-03-03');
9  insert into Aircrafts values(2327, 250, "Boeing", '1997-04-04');
10 insert into Aircrafts values(2328, 300, "Textron", '1997-05-05');
11 insert into Aircrafts values(2329, 350, "Deccan Corporation", '1997-06-06');
12 insert into Aircrafts values(2330, 400, "Lockheed", '1997-07-07');
13 insert into Aircrafts values(2331, 450, "Northrop Grumman", '1997-08-08');
14 insert into Aircrafts values(2332, 500, "Safran Group", '1997-09-09');
15 insert into Aircrafts values(2333, 550, "General Dynamics Corporation", '1997-10-10');
16 select * from Aircrafts;
17
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

AC_ID	Aircraft_capacity	MFD_BY	MFD_ON
2324	190	AAR Corporation	1997-01-01
2325	195	AviaBellanca Aircraft	1997-02-02
2326	200	Blackburn Aircraft	1997-03-03
2327	250	Boeing	1997-04-04
2328	300	Textron	1997-05-05
2329	350	Deccan Corporation	1997-06-06
2330	400	Lockheed	1997-07-07
2331	450	Northrop Grumman	1997-08-08
2332	500	Safran Group	1997-09-09
2333	550	General Dynamics Corporation	1997-10-10

.sql FILE SHAREABLE LINK:

https://drive.google.com/file/d/0B9YYH87xJgL9anF3OVFpSEZ5Sms/view?usp=sharing