

Airport Management System

Diploma II Year CSE

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- Navin Kumar.

1. **PROJECT DESCRIPTION**

Domain: Airport Management System

1.1 Requirements of the system:

- The system is based on airport management. Airport management system primarily deals with management of airport, airlines and passengers. The system provides broad overview of underlying operational factors that influence the airport management.
- The database system has the data of all commercial service airports.
- An airport is located in a city.
- All International airlines operating through various countries across the world have their offices located in all major cities and airports they cover. Hence, an airport may have many airline offices.
- Every airline is identified uniquely by an airline code. Airline code is a two-letter airline designator. Airline also has three-digit code which is printed on an air ticket.

Airlines Code

Airline Name	IATA Airline code/IATA Designator	3-DIGIT CODE
British Airways	BA	1
Jet Airways	9W	589
Emirates	EK	176
Air India Limited	AI	98

- Airline companies serve flights.
- Every flight is uniquely identified by a flight code. Flight code is a combination of an airline code and four-digit number.
- Flight takes off from one airport and lands on another airport. Therefore, most important aspect of a flight is, its source and destination. Source and destination airports are identified using an airport's IATA code.
- International Air Transport Airport code is simply a location identifier. IATA code is a three-letter code designating many airports across the world. These codes are prominently displayed on baggage tags and printed on an air ticket.

Airline Name	IATA Airline code/IATA Designator
Indira Gandhi International Airport	DEL
Chhatrapati Shivaji International Airport	BOM
Chandigarh International Airport	IXC

- Flight has an arrival time, departure time, duration. Flight has three types of classes - business, economy and first class.
- Flight can be of two types such **non-stop flight** and **a connecting flight**.
- Connecting flight is a flight which takes intermediate stop and changes a flight possibly change of an airline. But we are assuming that connecting flight does not change a flight that is at each stop, after layover time gets over, passengers aboard the same flight.
- Flight serves passengers. Flight carries passengers from source to destination.
- A passenger is uniquely identified by a passenger id and a passport number.
 - Every passenger has details such as name, address, age, sex, phone.
- For a passenger to travel by a flight, he needs a ticket. A ticket or air ticket is used to confirm that an individual has reserved a seat on a flight. With the ticket, a passenger is allowed to board the flight.
 - An air ticket has information such as the passenger's name, the issuing airline, ticket number, source, destination, journey date, seat no, class, fare.
 - Ticket number is the combination of airline's 3-digit code, 4-digit form number, 6-digit serial number.



- Hence, depending on airline, source, destination, journey date and most importantly class, which a passenger chooses fare or price of an air ticket is determined.
- A passenger can book one or multiple tickets. The day on which he books an air ticket is a booking date. Similarly, a passenger can cancel one or multiple tickets. The day on which he cancels an air ticket is cancellation date and there will be a surcharge that a passenger has to pay after cancelling a ticket.
- Every airport has employees working for it.
- Every employee is identified by SSN. Every employee has an information such name, address, phone, age, sex, salary.
 - Employees in the role of administrative support, engineer, traffic controller and airport authority work at the airport.
 - Every airline needs administrative support staff to keep the office running smoothly. The different positions include secretaries, data entry workers, receptionists, communications and PR specialists and human resources department.
 - There are different types of engineers who work specifically with information technologies, electronics, flight structure, environmental regulations, etc. o Traffic Monitor works in different shifts such as day or night.
 - There are different positions that airport authorities might work at such as manager, attendee, assistant, pilot, etc.
- Employees working in the role of administrative support may help passengers with various tasks such as booking a flight ticket, solving passenger's questions, etc.
- The system is designed only for international flights.
- A city has at most one international airport.
- For Connecting flights, flight and airline remains same at layover stops.
- There are different types of jobs available at the airport. For simplicity our system considers a few jobs only.

2. ENTITIES :

CITY

<u>CNAME</u>	STATE	COUNTRY
--------------	-------	---------

AIRPORT

<u>AP_NAME</u>	STATE	COUNTRY
----------------	-------	---------

AIRLINE

<u>AIRLINE_ID</u>	AL_NAME	THREE_DIGIT_CODE
-------------------	---------	------------------

FLIGHT

<u>FLIGHT_CODE</u>	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	FLIGHTTYPE	LAYOVER_TIME	NO_OF_STOPS
--------------------	--------	-------------	---------	-----------	--------	----------	------------	--------------	-------------

PASSENGER

<u>PID</u>	<u>PASSPORTNO</u>	FNAME	M	LNAME	ADDRESS	PHONE	AGE	SEX
------------	-------------------	-------	---	-------	---------	-------	-----	-----

TICKET

<u>TICKET_NUMBER</u>	SOURCE	DESTINATION	DATE_OF_TRAVEL	SEATNO	CLASS	PRICE
----------------------	--------	-------------	----------------	--------	-------	-------

EMPLOYEE

<u>SSN</u>	FNAME	M	LNAME	ADDRESS	PHONE	AGE	SEX	JOBTYPE	SALARY
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3. ER DIAGRAM :

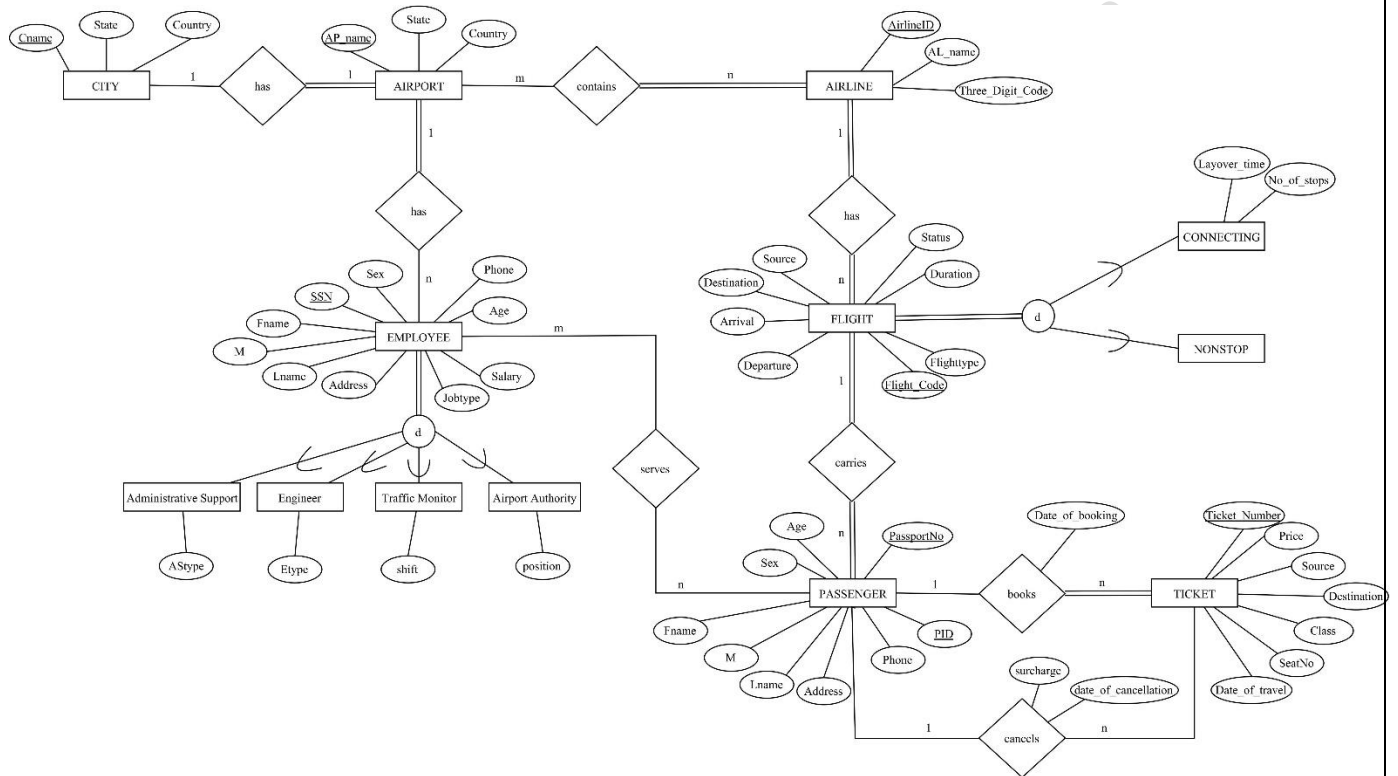


Figure 1: Airport Management System ER Diagram

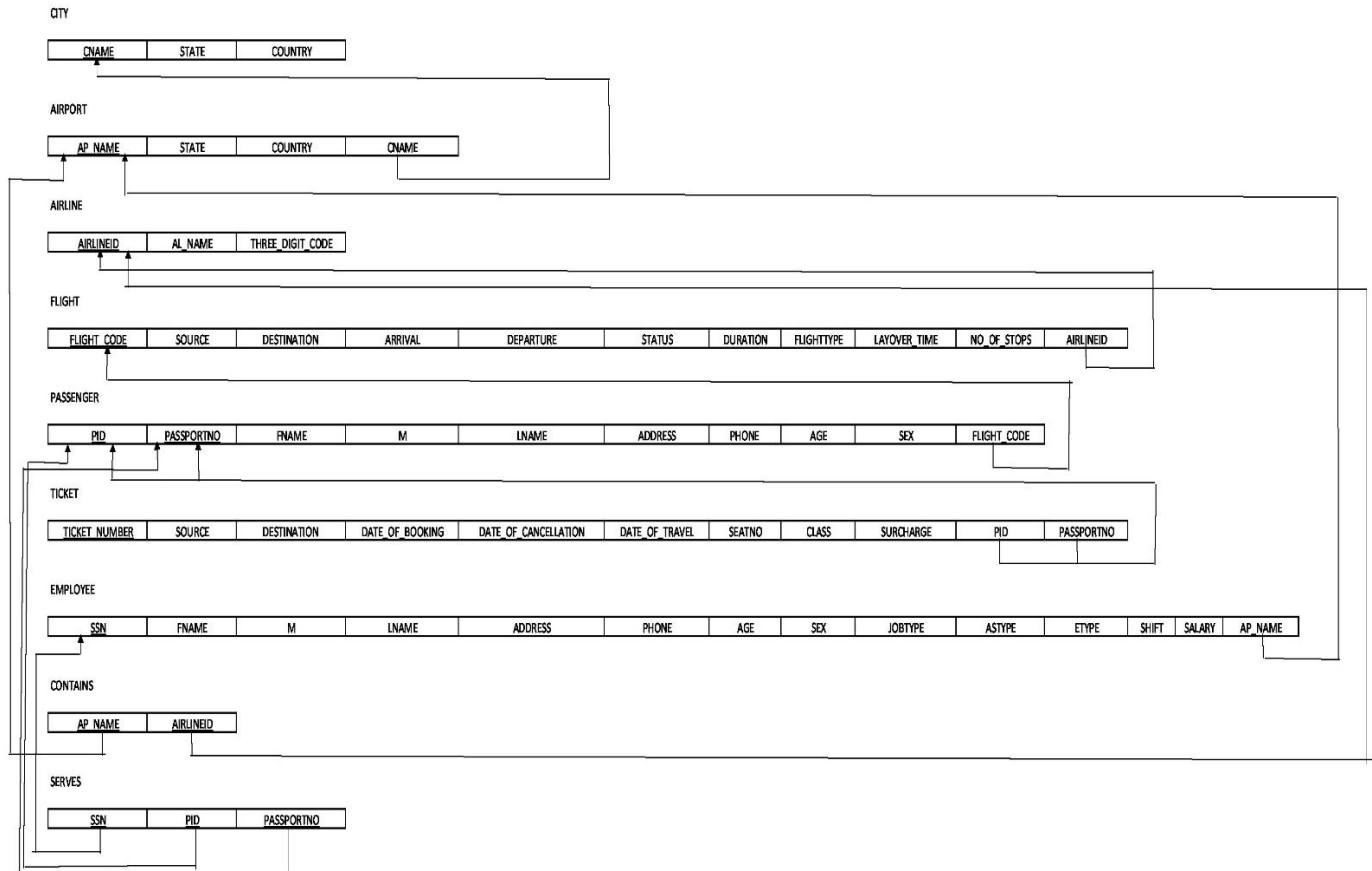
4. ER/EER DIAGRAM

ER diagram contains following relationships :

Entity 1	Name of the Relationship	Entity 2	Cardinality
City	has	Airport	1:1
Airport	contains	Airline	m:n
Airport	has	Employee	1:n
Airline	has	Flight	1:n
Flight	carries	Passengers	1:n
Employee	serves	Passengers	m:n
Passenger	books	Ticket	1:n
Passenger	cancels	Ticket	1:n

Type of the binary relationship	Relationships in the system
one-to-one	(1) A city has only one airport
one-to-many	(1) An airline has multiple flights, that is many flights belong to the same airline company. (2) A flight carries many passengers. (3) A passenger can book one or more tickets. (4) A passenger can cancel one or more tickets.
many-to-many	All International airlines operating through various countries across the world have their offices located in all major cities and airports they cover. Hence, an airport may have many airline offices.

5. RELATIONAL SCHEMA



6. CREATING SOME TABLES USING SQL COMMANDS

SQL COMMANDS & SNAPSHOT OF TABLE

6.1 CREATING TABLE “CITY1” :

```
CREATE TABLE CITY1
(CNAME VARCHAR(15) NOT NULL,
STATE VARCHAR(15),
COUNTRY VARCHAR(30),
PRIMARY KEY (CNAME));
```

```
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Louisville', 'Kentucky', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Chandigarh', 'Chandigarh', 'India');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Fort Worth', 'Texas', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Delhi', 'Delhi', 'India');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Mumbai', 'Maharashtra', 'India');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('San Francisco', 'California', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Frankfurt', 'Hesse', 'Germany');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Houston', 'Texas', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('New York City', 'New York', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Tampa', 'Florida', 'United States');
```

AIRPORT MANAGE...9N\namee (52))*

```
CREATE TABLE CITY1
(CNAME VARCHAR(15) NOT NULL,
STATE VARCHAR(15),
COUNTRY VARCHAR(30),
PRIMARY KEY (CNAME));
```

NAME - NAVIN KUMAR [DIPLOMA CSE 2ND YR.]

```
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Louisville', 'Kentucky', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Chandigarh', 'Chandigarh', 'India');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Fort Worth', 'Texas', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Delhi', 'Delhi', 'India');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Mumbai', 'Maharashtra', 'India');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('San Francisco', 'California', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Frankfurt', 'Hesse', 'Germany');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('Houston', 'Texas', 'United States');
INSERT INTO CITY1 (CNAME, STATE, COUNTRY) VALUES ('New York City', 'New York', 'United States');
```

Results Messages

	CNAME	STATE	COUNTRY
1	Chandigarh	Chandigarh	India
2	Delhi	Delhi	India
3	Fort Worth	Texas	United States
4	Frankfurt	Hesse	Germany
5	Houston	Texas	United States
6	Louisville	Kentucky	United States
7	Mumbai	Maharashtra	India
8	New York City	New York	United States
9	San Francisco	California	United States
10	Tampa	Florida	United States

6.2 CREATING TABLE “AIRPORT1” :

```
CREATE TABLE AIRPORT1
(AP_NAME VARCHAR(100) NOT NULL,
STATE VARCHAR(15),
COUNTRY VARCHAR(30),
CNAME VARCHAR(15),
PRIMARY KEY (AP_NAME),
FOREIGN KEY (CNAME) REFERENCES CITY1 (CNAME) ON DELETE CASCADE);
```

```
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Louisville
International Airport', 'Kentucky', 'United States', 'Louisville');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Chandigarh
International Airport', 'Chandigarh', 'India', 'Chandigarh');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Dallas/Fort
Worth International Airport', 'Texas', 'United States', 'Fort Worth');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Indira
Gandhi International Airport', 'Delhi', 'India', 'Delhi');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Chhatrapati
Shivaji International Airport', 'Maharashtra', 'India', 'Mumbai');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('San
Francisco International Airport', 'California', 'United States', 'San Francisco');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Frankfurt
Airport', 'Hesse', 'Germany', 'Frankfurt');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('George Bush
Intercontinental Airport', 'Texas', 'United States', 'Houston');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('John
F. Kennedy International Airport', 'New York', 'United States', 'New York City');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Tampa
International Airport', 'Florida', 'United States', 'Tampa');
```

AIRPORT MANAGE...9N\avee (52)*

```
CREATE TABLE AIRPORT1
(AP_NAME VARCHAR(100) NOT NULL,
STATE VARCHAR(15),
COUNTRY VARCHAR(30),
CNAME VARCHAR(15),
PRIMARY KEY (AP_NAME),
FOREIGN KEY (CNAME) REFERENCES CITY1 (CNAME) ON DELETE CASCADE);

INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Louisville International
Airport', 'Kentucky', 'United States', 'Louisville');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Chandigarh International
Airport', 'Chandigarh', 'India', 'Chandigarh');
INSERT INTO AIRPORT1 (AP_NAME, STATE, COUNTRY, CNAME) VALUES ('Dallas/Fort Worth International
Airport', 'Texas', 'United States', 'Fort Worth');
```

Results Messages

	AP_NAME	STATE	COUNTRY	CNAME
1	Chandigarh International Airport	Chandigarh	India	Chandigarh
2	Chhatrapati Shivaji International Airport	Maharashtra	India	Mumbai
3	Dallas/Fort Worth International Airport	Texas	United States	Fort Worth
4	Frankfurt Airport	Hesse	Germany	Frankfurt
5	George Bush Intercontinental Airport	Texas	United States	Houston
6	Indira Gandhi International Airport	Delhi	India	Delhi
7	John F. Kennedy International Airport	New York	United States	New York City
8	Louisville International Airport	Kentucky	United States	Louisville
9	San Francisco International Airport	California	United States	San Francisco
10	Tampa International Airport	Florida	United States	Tampa

6.3 CREATING TABLE “AIRLINE” :

```
CREATE TABLE AIRLINE
(AIRLINEID VARCHAR(3) NOT NULL,
AL_NAME VARCHAR(50),
THREE_DIGIT_CODE VARCHAR(3),
PRIMARY KEY (AIRLINEID));
```

```
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('AA', 'American Airlines', '001');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('AI', 'Air India Limited', '098');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('LH', 'Lufthansa', '220');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('BA', 'British Airways', '125');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('QR', 'Qatar Airways', '157');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('9W', 'Jet Airways', '589');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('EK', 'Emirates', '176');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('EY', 'Ethiad Airways', '607');
```

AIRPORT MANAGE...9N\savee (52))*

```
CREATE TABLE AIRLINE
(AIRLINEID VARCHAR(3) NOT NULL,
AL_NAME VARCHAR(50),
THREE_DIGIT_CODE VARCHAR(3),
PRIMARY KEY (AIRLINEID));

INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('AA', 'American Airlines', '001');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('AI', 'Air India Limited', '098');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('LH', 'Lufthansa', '220');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('BA', 'British Airways', '125');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('QR', 'Qatar Airways', '157');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('9W', 'Jet Airways', '589');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('EK', 'Emirates', '176');
INSERT INTO AIRLINE (AIRLINEID, AL_NAME, THREE_DIGIT_CODE) VALUES ('EY', 'Ethiad Airways', '607');

select * from AIRLINE;
```

Results Messages

	AIRLINEID	AL_NAME	THREE_DIGIT_CODE
1	9W	Jet Airways	589
2	AA	American Airlines	001
3	AI	Air India Limited	098
4	BA	British Airways	125
5	EK	Emirates	176
6	EY	Ethiad Airways	607
7	LH	Lufthansa	220
8	QR	Qatar Airways	157

6.4 CREATING TABLE “AIRLINE” :

```
CREATE TABLE FLIGHT
(FLIGHT_CODE VARCHAR(10) NOT NULL,
SOURCE VARCHAR(3),
DESTINATION VARCHAR(3),
ARRIVAL VARCHAR(10),
DEPARTURE VARCHAR(10),
STATUS VARCHAR(10),
DURATION VARCHAR(30),
FLIGHTTYPE VARCHAR(10),
LAYOVER_TIME VARCHAR(30),
NO_OF_STOPS INT,
AIRLINEID VARCHAR(3),
PRIMARY KEY (FLIGHT_CODE),
FOREIGN KEY (AIRLINEID) REFERENCES AIRLINE (AIRLINEID) ON DELETE CASCADE);
```

```
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('AI2014', 'BOM', 'DFW', '02:10', '03:15', 'On-time', '24hr', 'Connecting', 3, 1, 'AI');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('QR2305', 'BOM', 'DFW', '13:00', '13:55', 'Delayed', '21hr', 'Non-stop', 0, 0, 'QR');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('EY1234', 'JFK', 'TPA', '19:20', '20:05', 'On-time', '16hrs', 'Connecting', 5, 2, 'EY');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('LH9876', 'JFK', 'BOM', '05:50', '06:35', 'On-time', '18hrs', 'Non-stop', 0, 0, 'LH');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('BA1689', 'FRA', 'DEL', '10:20', '10:55', 'On-time', '14hrs', 'Non-stop', 0, 0, 'BA');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('AA4367', 'SFO', 'FRA', '18:10', '18:55', 'On-time', '21hrs', 'Non-stop', 0, 0, 'AA');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('QR1902', 'IXC', 'IAH', '22:00', '22:50', 'Delayed', '28hrs', 'Non-stop', 5, 1, 'QR');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('BA3056', 'BOM', 'DFW', '02:15', '02:55', 'On-time', '29hrs', 'Connecting', 3, 1, 'BA');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('EK3456', 'BOM', 'SFO', '18:50', '19:40', 'On-time', '30hrs', 'Non-stop', 0, 0, 'EK');
INSERT INTO FLIGHT (FLIGHT_CODE, SOURCE, DESTINATION, ARRIVAL, DEPARTURE, STATUS,
DURATION, FLIGHTTYPE, LAYOVER_TIME, NO_OF_STOPS, AIRLINEID)
VALUES ('9W2334', 'IAH', 'DEL', '23:00', '13:45', 'On-time', '23hrs', 'Direct', 0, 0, '9W');
```

	FLIGHT_CODE	SOURCE	DESTINATION	ARRIVAL	DEPARTURE	STATUS	DURATION	FLIGHTTYPE	LAYOVER_TIME	NO_OF_STOPS	AIRLINEID
1	9W2334	IAH	DEL	23:00	13:45	On-time	23hrs	Direct	0	0	9W
2	AA4367	SFO	FRA	18:10	18:55	On-time	21hrs	Non-stop	0	0	AA
3	AI2014	BOM	DFW	02:10	03:15	On-time	24hr	Connecting	3	1	AI
4	BA1689	FRA	DEL	10:20	10:55	On-time	14hrs	Non-stop	0	0	BA
5	BA3056	BOM	DFW	02:15	02:55	On-time	29hrs	Connecting	3	1	BA
6	EK3456	BOM	SFO	18:50	19:40	On-time	30hrs	Non-stop	0	0	EK
7	EY1234	JFK	TPA	19:20	20:05	On-time	16hrs	Connecting	5	2	EY
8	LH9876	JFK	BOM	05:50	06:35	On-time	18hrs	Non-stop	0	0	LH
9	QR1902	IXC	IAH	22:00	22:50	Delayed	28hrs	Non-stop	5	1	QR
10	QR2305	BOM	DFW	13:00	13:55	Delayed	21hr	Non-stop	0	0	QR

6.5 CREATING TABLE “PASSENGER1” :

```
CREATE TABLE PASSENGER1
(PID INT NOT NULL,
PASSPORTNO VARCHAR(10) NOT NULL,
PRIMARY KEY (PID, PASSPORTNO) );
```

```
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (1, 'A1234568');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (2, 'B9876541');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (3, 'C2345698');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (4, 'D1002004');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (5, 'X9324666');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (6, 'B8765430');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (7, 'J9801235');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (8, 'A1122334');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (9, 'Q1243567');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (10, 'S1243269');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (11, 'E3277889');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (12, 'K3212322');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (13, 'P3452390');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (14, 'W7543336');
INSERT INTO PASSENGER1 (PID, PASSPORTNO) VALUES (15, 'R8990566');
```

Results		Messages	
	PID	PASSPORTNO	
1	1	A1234568	
2	2	B9876541	
3	3	C2345698	
4	4	D1002004	
5	5	X9324666	
6	6	B8765430	
7	7	J9801235	
8	8	A1122334	
9	9	Q1243567	
10	10	S1243269	
11	11	E3277889	
12	12	K3212322	
13	13	P3452390	
14	14	W7543336	
15	15	R8990566	

6.6 CREATING TABLE “PASSENGER2” :

```
CREATE TABLE PASSENGER2
(PASSPORTNO VARCHAR(10) NOT NULL,
FNAME VARCHAR(20),
M VARCHAR(1),
LNAME VARCHAR(20),
ADDRESS VARCHAR(100),
PHONE INT,
AGE INT,
SEX VARCHAR(1),
PRIMARY KEY (PASSPORTNO));
```

```
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('A1234568', 'NAVIN', 'M', 'KUMAR', 'MOTIHARI BIHAR INDIA', 1080367290, 30, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('B9876541', 'ANKITA', 'V', 'GUPTA', '3456 VIKAS APTS, APT 102, DOMBIVLI,
INDIA', 1280367280, 26, 'F');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('C2345698', 'KHYATI', 'A', 'MISHRA', '7820 MCCALLUM COURTS, APT 234, AKRON,
OH', 1242267280, 30, 'F');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('D1002004', 'ANKITA', 'S', 'PATIL', '7720 MCCALLUM BLVD, APT 1082, DALLAS,
TX', 0120367266, 23, 'F');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('X9324666', 'NIRMAL', 'B', 'PANDEY', '9, KATHMANDU, NEPAL', 0214360125, 28, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('B8765430', 'LAKSHMI', 'P', 'SHARMA', '1110 FIR HILLS, APT 903, AKRON,
OH', 2106190505, 30, 'F');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('J9801235', 'AKHILESH', 'D', 'JOSHI', '345 CHATHAM COURTS, APT 678, MUMBAI,
INDIA', 1290369290, 29, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('A1122334', 'MANAN', 'S', 'LAKHANI', '5589 CHTHAM REFLECTIONS, APT 349
HOUSTON, TX', 0124335126, 25, 'F');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('Q1243567', 'KARAN', 'M', 'MOTANI', '4444 FRANKFORD VILLA, APT 77, GUILDERLAND,
NY', 0137626643, 22, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('S1243269', 'ROM', 'A', 'SOLANKI', '7720 MCCALLUM BLVD, APT 2087, DALLAS,
TX', 0104568903, 60, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('E3277889', 'John', 'A', 'GATES', '1234 BAKER APTS, APT 59, HESSE,
GERMANY', 0214569986, 10, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('K3212322', 'SARA', 'B', 'GOMES', '6785 SPLITSVILLA, APT 34, MIAMI,
FL', 2024569226, 15, 'F');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('P3452390', 'ALIA', 'V', 'BHAT', '548 MARKET PLACE, SAN Francisco,
CA', 1734567800, 10, 'F');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('W7543336', 'JOHN', 'P', 'SMITH', '6666 ROCK HILL, APT 2902, TAMPA,
FL', 1624569986, 55, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('R8990566', 'RIA', 'T', 'GUPTA', '3355 PALENCIA, APT 2065, MUMBAI,
INDIA', 2024512343, 10, 'M');
```


AIRPORT MANAGE...9N\avee (52))*

```

VALUES ('W7543336', 'JOHN', 'P', 'SMITH', '6666 ROCK HILL, APT 2902, TAMPA, FL', 1624569986, 55, 'M');
INSERT INTO PASSENGER2 (PASSPORTNO, FNAME, M, LNAME, ADDRESS, PHONE, AGE, SEX)
VALUES ('R8990566', 'RIA', 'T', 'GUPTA', '3355 PALENCIA, APT 2065, MUMBAI, INDIA', 2024512343, 10, 'M');

SELECT * FROM PASSENGER2;

```

	PASSPORTNO	FNAME	M	LNAME	ADDRESS	PHONE	AGE	SEX
1	A1122334	MANAN	S	LAKHANI	5589 CHTHAM REFLECTIONS, APT 349 HOUSTON, TX	124335126	25	F
2	A1234568	NAVIN	M	KUMAR	MOTIHARI BIHAR INDIA	1080367290	30	M
3	B8765430	LAKSHMI	P	SHARMA	1110 FIR HILLS, APT 903, AKRON, OH	2106190505	30	F
4	B9876541	ANKITA	V	GUPTA	3456 VIKAS APTS, APT 102, DOMBIVLI, INDIA	1280367280	26	F
5	C2345698	KHYATI	A	MISHRA	7820 MCCALLUM COURTS, APT 234, AKRON, OH	1242267280	30	F
6	D1002004	ANKITA	S	PATIL	7720 MCCALLUM BLVD, APT 1082, DALLAS, TX	120367266	23	F
7	E3277889	John	A	GATES	1234 BAKER APTS, APT 59, HESSE, GERMANY	214569986	10	M
8	J9801235	AKHILESH	D	JOSHI	345 CHATHAM COURTS, APT 678, MUMBAI, INDIA	1290369290	29	M
9	K3212322	SARA	B	GOMES	6785 SPLITSVILLA, APT 34, MIAMI, FL	2024569226	15	F
10	P3452390	ALIA	V	BHAT	548 MARKET PLACE, SAN Francisco, CA	1734567800	10	F
11	Q1243567	KARAN	M	MOTANI	4444 FRANKFORD VILLA, APT 77, GUILDERLAND, NY	137626643	22	M
12	R8990566	RIA	T	GUPTA	3355 PALENCIA, APT 2065, MUMBAI, INDIA	2024512343	10	M
13	S1243269	ROM	A	SOLANKI	7720 MCCALLUM BLVD, APT 2087, DALLAS, TX	104568903	60	M
14	W7543336	JOHN	P	SMITH	6666 ROCK HILL, APT 2902, TAMPA, FL	1624569986	55	M
15	X9324666	NIRMAL	B	PANDEY	9, KATHMANDU, NEPAL	214360125	28	M

6.7 CREATING TABLE "PASSENGER3" :

```

CREATE TABLE PASSENGER3
(PID INT NOT NULL,
FLIGHT_CODE VARCHAR(10),
PRIMARY KEY (PID),
FOREIGN KEY (FLIGHT_CODE) REFERENCES FLIGHT (FLIGHT_CODE) ON DELETE CASCADE);

```

```

INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (1, 'AI2014');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (2, 'LH9876');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (3, '9W2334');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (4, 'QR1902');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (5, 'EY1234');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (6, 'BA3056');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (7, '9W2334');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (8, 'AA4367');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (9, 'QR1902');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (10, 'EK3456');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (11, 'BA1689');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (12, 'QR1902');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (13, 'AI2014');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (14, 'BA1689');
INSERT INTO PASSENGER3 (PID, FLIGHT_CODE) VALUES (15, 'QR2305');

```

	PID	FLIGHT_CODE
1	1	AI2014
2	2	LH9876
3	3	9W2334
4	4	QR1902
5	5	EY1234
6	6	BA3056
7	7	9W2334
8	8	AA4367
9	9	QR1902
10	10	EK3456
11	11	BA1689
12	12	QR1902

6.8 CREATING TABLE "TICKET1" :

```
CREATE TABLE TICKET1
(TICKET_NUMBER VARCHAR(13) NOT NULL,
SOURCE VARCHAR(3),
DESTINATION VARCHAR(3),
DATE_OF_BOOKING DATE,
DATE_OF_TRAVEL DATE,
SEATNO VARCHAR(5),
CLASS VARCHAR(15),
DATE_OF_CANCELLATION DATE,
PID INT,
PASSPORTNO VARCHAR(10),
FOREIGN KEY (PID, PASSPORTNO) REFERENCES PASSENGER1 (PID, PASSPORTNO) ON
DELETE CASCADE);
```

```
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (0011234111122, 'BOM', 'DFW', '11-MAY-16', '', '15-DEC-16', '32A', 'ECONOMY', 1, 'A1234568');
```

```
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (0124567222299, 'JFK', 'BOM', '11-JUN-16', '10-DEC-16', '20-DEC-
16', '45D', 'ECONOMY', 2, 'B9876541');
```

```
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (1768901333273, 'IAH', 'DEL', '21-AUG-16', '', '25-DEC-16', '1A', 'BUSINESS', 3, 'C2345698');
```

```
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (5890987441464, 'IXC', 'IAH', '10-AUG-16', '', '12-JAN-17', '20C', 'FIRST-CLASS', 4, 'D1002004');
```

```
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (1577654664266, 'JFK', 'TPA', '13-JUN-16', '', '10-DEC-16', '54E', 'ECONOMY', 5, 'X9324666');
```

```
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
```

```

DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (2206543545545, 'BOM', 'DFW', '11-NOV-16', '', '12-FEB-17', '43B', 'ECONOMY', 6, 'B8765430');
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (7064321779737, 'IAH', 'DEL', '15-NOV-16', '', '25-DEC-16', '27B', 'FIRST-CLASS', 7, 'J9801235');
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (1571357215116, 'SFO', 'FRA', '15-OCT-16', '', '18-DEC-16', '34E', 'ECONOMY', 8, 'A1122334');
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (1570864987655, 'IXC', 'IAH', '12-NOV-16', '', '30-DEC-16', '54C', 'ECONOMY', 9, 'Q1243567');
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (1579283997799, 'BOM', 'SFO', '22-JAN-16', '', '15-DEC-16', '38A', 'ECONOMY', 10, 'S1243269');
INSERT INTO TICKET1 (TICKET_NUMBER, SOURCE, DESTINATION, DATE_OF_BOOKING,
DATE_OF_CANCELLATION, DATE_OF_TRAVEL, SEATNO, CLASS, PID, PASSPORTNO)
VALUES (1255701876107, 'FRA', 'DEL', '19-OCT-16', '', '31-DEC-16', '57F', 'ECONOMY', 11, 'E3277889');

```

TICKET_NUMBER	SOURCE	DESTINATION	DATE_OF_BOOKING	DATE_OF_TRAVEL	SEATNO	CLASS	DATE_OF_CANCELLATION	PID	PASSPORTNO
1	11234111122	BOM	DFW	2016-05-11	2016-12-15	32A	ECONOMY	1	A1234568
2	11234111122	BOM	DFW	2016-05-11	2016-12-15	32A	ECONOMY	1	A1234568
3	12456722299	JFK	BOM	2016-06-11	2016-12-20	45D	ECONOMY	2	B9876541
4	1768901333273	IAH	DEL	2016-08-21	2016-12-25	1A	BUSINESS	3	C2345698
5	5890987441464	IXC	IAH	2016-08-10	2017-01-12	20C	FIRST-CLASS	4	D1002004
6	1577654664266	JFK	TPA	2016-06-13	2016-12-10	54E	ECONOMY	5	X9324666
7	2206543545545	BOM	DFW	2016-11-11	2017-02-12	43B	ECONOMY	6	B8765430
8	7064321779737	IAH	DEL	2016-11-15	2016-12-25	27B	FIRST-CLASS	7	J9801235
9	1571357215116	SFO	FRA	2016-10-15	2016-12-18	34E	ECONOMY	8	A1122334
10	1570864987655	IXC	IAH	2016-11-12	2016-12-30	54C	ECONOMY	9	Q1243567
11	1579283997799	BOM	SFO	2016-01-22	2016-12-15	38A	ECONOMY	10	S1243269
12	1255701876107	FRA	DEL	2016-10-19	2016-12-31	57F	ECONOMY	11	E3277889

6.8 CREATING TABLE "TICKET2":

```

CREATE TABLE TICKET2
(DATE_OF_BOOKING DATE NOT NULL,
SOURCE VARCHAR(3) NOT NULL,
DESTINATION VARCHAR(3) NOT NULL,
CLASS VARCHAR(15) NOT NULL,
PRICE INT,
PRIMARY KEY (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS));

```

```

INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('11-MAY-16', 'BOM', 'DFW', 'ECONOMY', 95000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('11-JUN-16', 'JFK', 'BOM', 'ECONOMY', 100000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('21-AUG-16', 'IAH', 'DEL', 'BUSINESS', 200000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('10-AUG-16', 'IXC', 'IAH', 'FIRST-CLASS', 150000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('13-JUN-16', 'JFK', 'TPA', 'ECONOMY', 98000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('11-NOV-16', 'BOM', 'DFW', 'ECONOMY', 125000);

INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('15-NOV-16', 'IAH', 'DEL', 'FIRST-CLASS', 195000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('15-OCT-16', 'SFO', 'FRA', 'ECONOMY', 170000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('12-NOV-16', 'IXC', 'IAH', 'ECONOMY', 140000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('22-JAN-16', 'BOM', 'SFO', 'ECONOMY', 45000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('19-OCT-16', 'FRA', 'DEL', 'ECONOMY', 100000);

```

```

INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('20-NOV-16', 'IXC', 'IAH', 'ECONOMY', 120000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('13-MAY-16', 'BOM', 'DFW', 'ECONOMY', 65000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('26-JUN-16', 'FRA', 'DEL', 'ECONOMY', 80000);
INSERT INTO TICKET2 (DATE_OF_BOOKING, SOURCE, DESTINATION, CLASS, PRICE)
VALUES ('11-AUG-16', 'BOM', 'DFW', 'ECONOMY', 98000);

```

select * from TICKET2; // navin kumar

	DATE_OF_BOOKING	SOURCE	DESTINATION	CLASS	PRICE
1	2016-01-22	BOM	SFO	ECONOMY	45000
2	2016-05-11	BOM	DFW	ECONOMY	95000
3	2016-05-13	BOM	DFW	ECONOMY	65000
4	2016-06-11	JFK	BOM	ECONOMY	100000
5	2016-06-13	JFK	TPA	ECONOMY	98000
6	2016-06-26	FRA	DEL	ECONOMY	80000
7	2016-08-10	IXC	IAH	FIRST-CLASS	150000
8	2016-08-11	BOM	DFW	ECONOMY	98000
9	2016-08-21	IAH	DEL	BUSINESS	200000
10	2016-10-15	SFO	FRA	ECONOMY	170000
11	2016-10-19	FRA	DEL	ECONOMY	100000
12	2016-11-11	BOM	DFW	ECONOMY	125000
13	2016-11-12	IXC	IAH	ECONOMY	140000
14	2016-11-15	IAH	DEL	FIRST-CLASS	195000
15	2016-11-20	IXC	IAH	ECONOMY	120000

THANK YOU