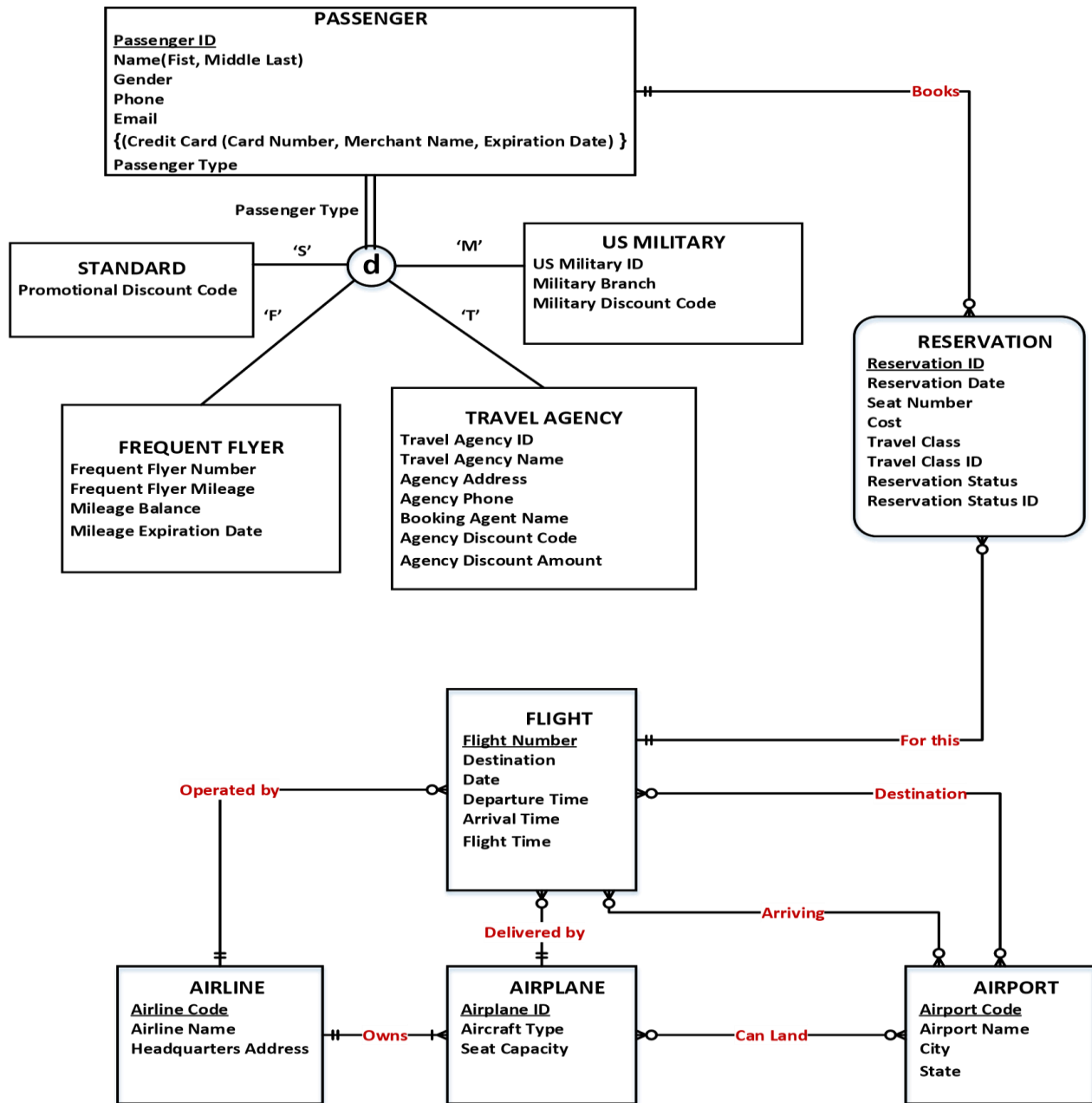
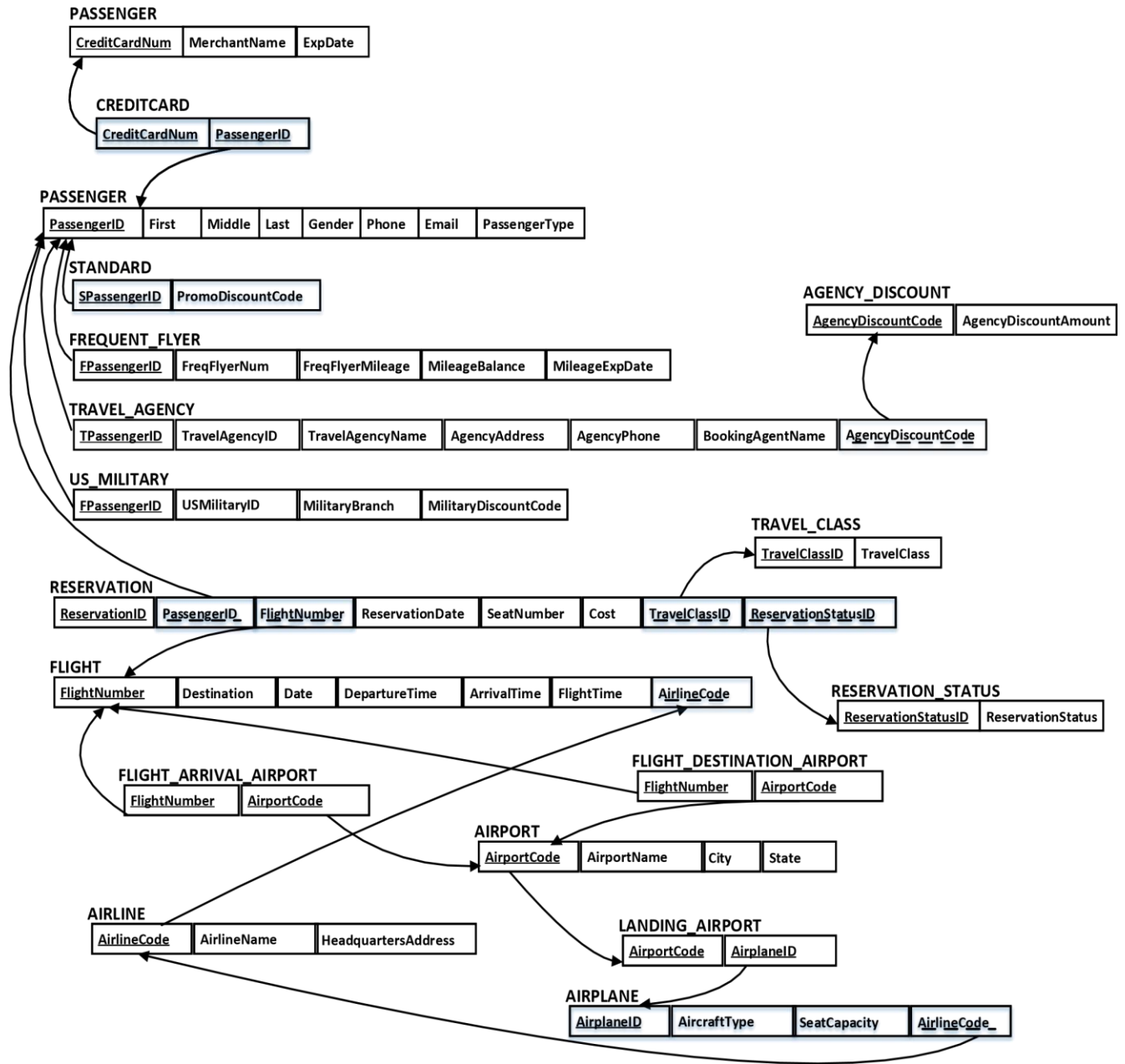


## Design & Implementation

### 1. EER Model DIAGRAM #1



## 2. Normalized Logical Model Diagram #2



## 3. DATA DICTIONARY

PASSENGER						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
PassengerID	NUMBER	NUMBER	Y		Primary Key 10 NOT- NULL	PassengerID. Unique identifier for Passenger Instance
First	Variable Character	VARCHAR2	Y	20	NOT-NULL	First Name of Passenger
Middle	Variable Character	VARCHAR2	Y	20	NOT-NULL	Middle Name of Passenger
Last	Variable Character	VARCHAR2	Y	20	NOT-NULL	Last Name of Passenger
Gender	Character	CHAR	Y	1	NOT_NULL	Gender of Passenger
Phone	NUMBER	NUMBER	Y	10	NOT-NULL	Phone Number of Passenger
Email	Variable Character	VARCHAR	Y	50	NOT-NULL	Passenger's Email
PassengerType	Variable Character	VARCHAR	Y	20	NOT-NULL	PassengerType

STANDARD							
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose	
SPassengerID	NUMBER	NUMBER	Y	10	Primary key NOT-NULL	PassengerID of STANDARD Passenger	
PromoDiscountCode	Character	CHAR	Y	10	NOT_NULL	Discount code for STANDARD Passenger	

TRAVEL_AGENCY							
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose	
TPassengerID	NUMBER	NUMBER	Y	10	Primary Key NOT-NULL	PassengerID for TRAVEL_AGENCY Passenger	
TravelAgencyID	NUMBER	NUMBER	Y	10	NOT_NULL	Identification Number for Travel Agency	
TravelAgencyName	Variable Character	VARCHAR2	Y	50	NOT_NULL	Name of the Travel Agency	
AgencyAddress	Variable Character	VARCHAR2	Y	50	NOT_NULL	Address of Travel Agency	
AgencyPhone	NUMBER	NUMBER	Y	10	NOT_NULL	Phone Number of Travel Agency	
BookingAgentName	Variable Character	VARCHAR2	Y	50	NOT_NULL	Name of the Travel Agency	
AgencyDiscountCode	NUMBER	NUMBER	Y	10	NOT_NULL	Discount Code given to FREQEUNT_FLYER Passenger by Travel Agency	

FREQUENT_FLYER						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
FPassengerID	NUMBER	NUMBER	Y	10	Primary Key NOT_NULL	PassengerID for FFREQUENT_FLYER Passenger
FreqFlyerNum	NUMBER	NUMBER	Y	10	NOT_NULL	Frequent Flyer Number for FREQUENT_FLYER Passenger
FreqFlyerMileage	FLOAT	FLOAT	Y		NOT-NULL	Mileage used
MileageBalance	FLOAT	FLOAT	Y		NOT-NULL	Mileage Balance for FREQUENT_FLYER Passenger
MileageExpData	DATE	DATE	Y		NOT-NULL	Expiration Date for Mileage to be used by FREQUENT_FLYER Passenger
US_MILITARY						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
FPassengerID	NUMBER	NUMBER	Y	10	Primary Key NOT_NULL	PassengerID for US_MILITARY PassengerType
USMilitaryID	NUMBER	NUMBER	Y	10	NOT_NULL	Unique ID for US_MILITARY Passenger
MilitaryBranch	Variable Character	VARCHAR2	Y	20	NOT_NULL	Name of Branch that US_MILITARY Passenger belongs to
MilitaryDiscountCode	Character	CHAR	Y	10	NOT_NULL	Discount Code given to US_MILITARY Passenger
CREDITCARD						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
CreditCardNum	NUMBER	NUMBER	Y	16	Primary Key NOT_NULL	CreditCard Number used by Passenger to book Flight
PassengerID	NUMBER	NUMBER	Y	10	Primary key NOT-NULL	PassengerID of Passenger using CreditCard

PASSENGER_CREDITCARD						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
CreditCardNum	NUMBER	NUMBER	Y	16	Primary Key NOT_NULL	CreditCard Number used by Passenger to book Flight
MerchantName	Variable Character	VARCHAR2	Y	30	NOT-NULL	Name of the Merchant issuing the CreditCard
ExpDate	DATE	DATE	Y	dd-mm-yy	NOT-NULL	ExpirationDate of Creditcard used by Passenger

AGENCY_DISCOUNT						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
AgencyDiscountCode	NUMBER	NUMBER	Y	10	Primary Key NOT-NULL	DiscountCode given to TRAVEL_AGENCY Passenger
AgencyDiscountAmount	Decimal	DEC	Y	(8,2)	NOT-NULL	DiscountAmount after using DiscountCode

TRAVEL_CLASS						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
TravelClassID	NUMBER	NUMBER	Y	10	Primary Key NOT-NULL	TravelClassID for different class(Economy, Business, etc)
TravelClass	Character	CHAR	Y	20	NOT-NULL	Class name(Economy, Business)

RESERVATION						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
ReservationID	NUMBER	NUMBER	Y	10	Primary Key NOT-NULL	ReservationID given after Passenger books flight.
PassengerID	NUMBER	NUMBER	Y	10	NOT-NULL	PassengerID of Passenger who booked flight
FlightNumber	Character	CHAR	Y	10	NOT-NULL	FlightNumber for booked flight
ReservationDate	DATE	DATE	Y	dd-mm-yy	NOT-NULL	Date on which flight was reserved
SeatNumber	Character	CHAR	Y	4	NOT-NULL	SeatNumber Assigned to Passenger
Cost	NUMBER	NUMBER	Y	(8,2)	NOT-NULL	Cost of flight reserved
TravelClassID	NUMBER	NUMBER	Y	10	NOT-NULL	TravelClassID for for different class(Economy, Business, etc)
ReservationStatusID	NUMBER	NUMBER	Y	10	NOT-NULL	StatusID given after reservation is made

FLIGHT						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
FlightNumber	Character	CHAR	Y	10	Primary Key NOT-NULL	FlightNumber of the flight reserved by Passenger
Destination	Variable Character	VARCHAR2	Y	50	NOT-NULL	Name of the Destination of Flight
Date	DATE	DATE	Y	dd-mm-yy	NOT-NULL	Date of the flight
DepartureTime	Timestamp	Timestamp	Y	DD-Mon-RR HH24:MI:SS.FF	NOT-NULL	Time at which Flight Departs
ArrivalTime	Timestamp	Timestamp	Y	DD-Mon-RR HH24:MI:SS.FF	NOT-NULL	Time at which Flight lands
FlightTime	Timestamp	Timestamp	Y	DD-Mon-RR HH24:MI:SS.FF	NOT-NULL	Time at which Flight arrives
AirlineCode	Character	CHAR	Y	10	Foreign Key NOT-NULL	Code given by Airline for the scheduled Flight

RESERVATION_STATUS						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
ReservationStatusID	NUMBER	NUMBER	Y	10	Primary Key NOT-NULL	StatusID issued after reservation is made by Passenger
ReservationStatus	Variable Character	VARCHAR2	Y	20	NOT-NULL	Status of the flight reserved by Passenger(Confirmed or Cancelled or OnHold)

FLIGHT_ARRIVAL_AIRPORT						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
FlightNumber	Character	CHAR	Y	10	Primary Key NOT-NULL	FlightNumber of flight arriving on FLIGHT_ARRIVAL_AIRPORT
AirportCode	Character	CHAR	Y	10	Primary Key NOT-NULL	AirportCode of FLIGHT_ARRIVAL_AIRPORT

FLIGHT_DESTINATION_AIRPORT						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
FlightNumber	Character	CHAR	Y	10	Primary Key NOT-NULL	FlightNumber of flight arriving on FLIGHT_DESTINATION_AIRPORT
AirportCode	Character	CHAR	Y	10	Primary Key NOT-NULL	AirportCode of FLIGHT_DESTINATION_AIRPORT

AIRPORT						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
AirportCode	Character	CHAR	Y	10	Primary Key NOT-NULL	Code of the Airport where the flight lands or departs from
AirportName	Variable Character	VARCHAR2	Y	20	NOT-NULL	Name of the Airport
City	Variable Character	VARCHAR2	Y	30	NOT-NULL	name of the city where the airport is located
State	Variable Character	VARCHAR2	Y	35	NOT-NULL	State where the airport is located

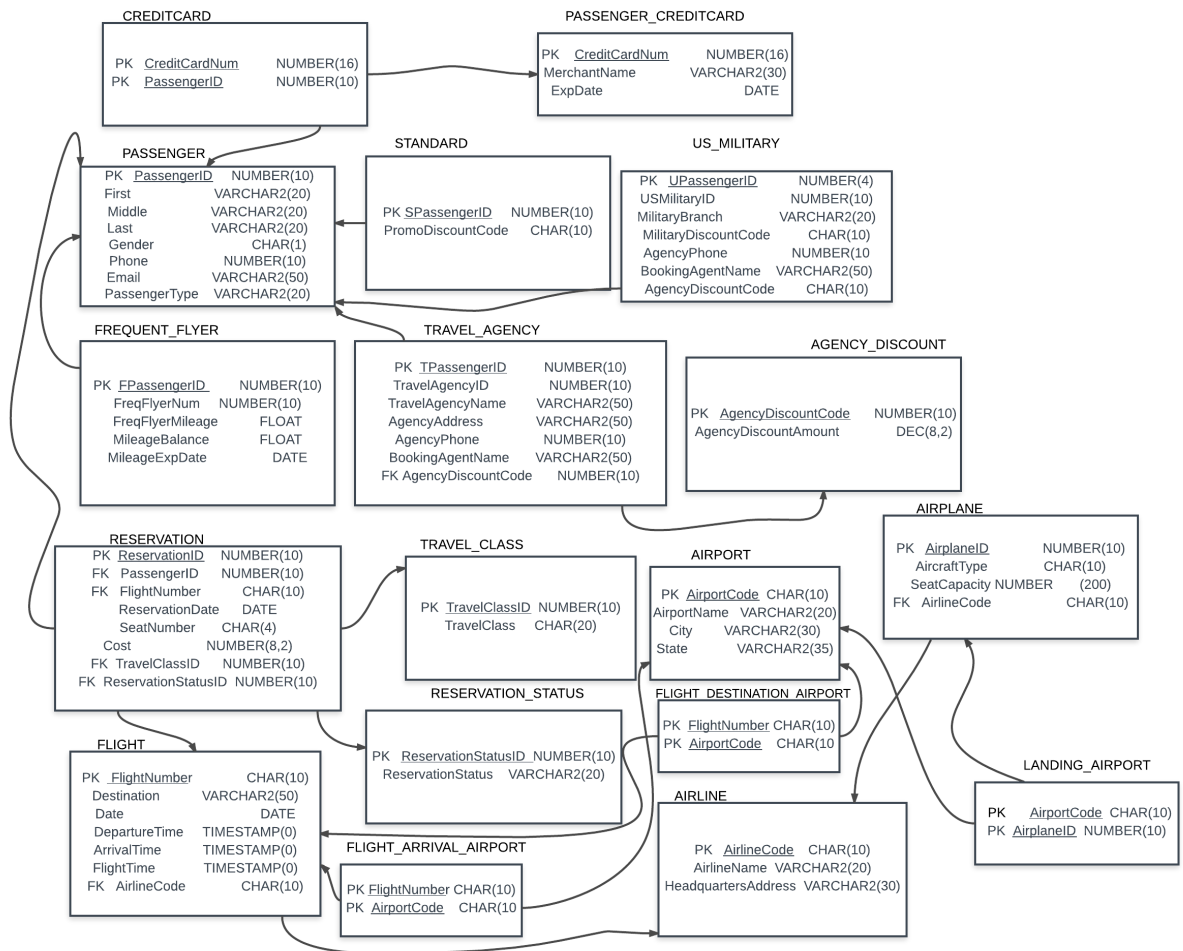
LANDING_AIRPORT						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
AirportCode	Character	CHAR	Y	10	Primary Key NOT-NULL	Code of the airport where the flight lands
AirplaneID	NUMBER	NUMBER	Y	10	Primary Key NOT-NULL	ID of the airplane that will be landing

AIRPLANE							
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose	
AirplaneID	NUMBER	NUMBER	Y	10	Primary Key NOT-NULL	ID of the airplane that lands/arrives on airport	
AircraftType	Character	CHAR	Y	10	NOT-NULL	Type of the Airplane operating	
SeatCapacity	NUMBER	CHAR	Y	200	NOT-NULL	Maximum Number of Seats that airplane can accommodate	
AirlineCode	Character	CHAR	Y	10	Primary Key NOT-NULL	Code of the Airline from which the airplane operates	

AIRLINE						
Attribute Name	Data Type	Oracle Data Type	Required?	Length/Size/Format	Constraints	Description/Purpose
AirlineCode	Character	CHAR	Y	10	Primary Key NOT-NULL	Code of the Airline from which the airplane operates
AirlineName	Variable Character	VARCHAR2	Y	20	NOT-NULL	Name of the airline
HeadquartersAddress	Variable Character	VARCHAR2	Y	30	NOT-NULL	Address where the Airline Headquarte is

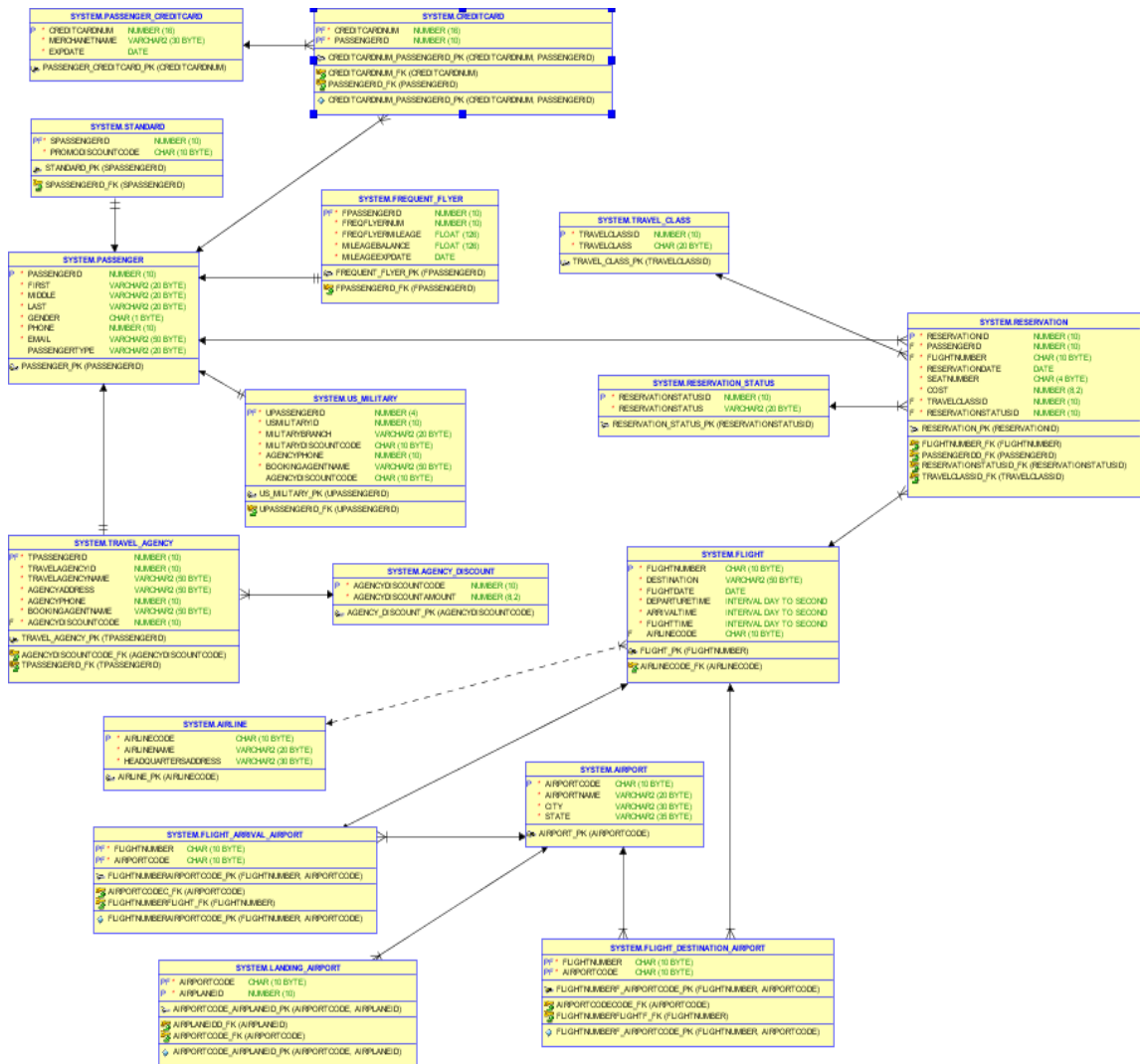
## 4. Physical Data Model Diagram





## 5. PHYSICAL SCHEMA USING ORACLE SQL DEVELOPER

(A separate file is attached where the diagram is clear)



## 6. CREATE STATEMENT

```
CREATE TABLE PASSENGER(  
    PassengerID          NUMBER(10) PRIMARY KEY,  
    First                VARCHAR(20) NOT NULL,  
    Middle               VARCHAR(20) NOT NULL,  
    Last                 VARCHAR(20) NOT NULL,  
    Gender               CHAR(1) NOT NULL,  
    Phone                NUMBER(10) NOT NULL,  
    Email                VARCHAR(50) NOT NULL,  
    PassengerType        VARCHAR(20) NULL);
```

```
CREATE TABLE PASSENGER_CREDITCARD(  
    CreditCardNum NUMBER(16) PRIMARY KEY,  
    MerchanetName VARCHAR(30) NOT NULL,  
    ExpDate DATE NOT NULL);
```

```
CREATE TABLE CREDITCARD(  
    CreditCardNum          NUMBER(16) NOT NULL,  
    PassengerID            NUMBER(10) NOT NULL,  
    CONSTRAINT CreditCardNum_PassengerID_PK PRIMARY  
KEY(CreditCardNum,PassengerID),  
    CONSTRAINT PassengerID_FK FOREIGN KEY(PassengerID) REFERENCES  
PASSENGER(PassengerID),  
    CONSTRAINT CreditCardNum_FK FOREIGN KEY(CreditCardNum) REFERENCES  
PASSENGER_CREDITCARD(CreditCardNum));  
  
CREATE TABLE AGENCY_DISCOUNT(  
    AgencyDiscountCode     NUMBER(10)PRIMARY KEY,  
    AgencyDiscountAmount   DEC(8,2)NOT NULL);
```

```
CREATE TABLE STANDARD(  
    SPassengerID           NUMBER(10)PRIMARY KEY,  
    PromoDiscountCode      CHAR(10)NOT NULL,  
    CONSTRAINT SPassengerID_FK FOREIGN KEY(SPassengerID) REFERENCES  
PASSENGER(PassengerID));
```

```
CREATE TABLE TRAVEL_AGENCY(  
    TPassengerID           NUMBER(10) PRIMARY KEY,  
    TravelAgencyID        NUMBER(10) NOT NULL,
```

```

TravelAgencyName    VARCHAR(50)NOT NULL,
AgencyAddress        VARCHAR(50)NOT NULL,
AgencyPhone          NUMBER(10)NOT NULL,
BookingAgentName      VARCHAR(50)NOT NULL,
AgencyDiscountCode    Number(10) NOT NULL,
CONSTRAINT AgencyDiscountCode_FK FOREIGN KEY(AgencyDiscountCode)
REFERENCES AGENCY_DISCOUNT(AgencyDiscountCode),
CONSTRAINT TPassengerID_FK FOREIGN KEY(TPassengerID) REFERENCES
PASSENGER(PassengerID));

```

```

CREATE TABLE FREQUENT_FLYER(
FPassengerID          NUMBER(10) PRIMARY KEY,
FreqFlyerNum           NUMBER(10) NOT NULL,
FreqFlyerMileage        FLOAT NOT NULL,
MileageBalance          FLOAT NOT NULL,
MileageExpDate          DATE NOT NULL,
CONSTRAINT FPassengerID_FK FOREIGN KEY(FPassengerID) REFERENCES
PASSENGER(PassengerID));

```

```

CREATE TABLE US_MILITARY(
UPassengerID           NUMBER(10)PRIMARY KEY,
USMilitaryID            NUMBER(10)NOT NULL,
MilitaryBranch          VARCHAR(20)NOT NULL,
MilitaryDiscountCode     CHAR(10)NOT NULL,
CONSTRAINT UPassengerID_FK FOREIGN KEY(UPassengerID) REFERENCES
PASSENGER(PassengerID));

```

```

CREATE TABLE TRAVEL_CLASS(
TravelClassID           NUMBER(10) PRIMARY KEY,
TravelClass             CHAR(20)NOT NULL);

```

```

CREATE TABLE RESERVATION_STATUS(
ReservationStatusID NUMBER(10) PRIMARY KEY,
ReservationStatus VARCHAR(20)NOT NULL);

```

```
CREATE TABLE AIRLINE(  
  AirlineCode CHAR(10) PRIMARY KEY,  
  AirlineName VARCHAR(50) NOT NULL,  
  HeadquartersAddress VARCHAR(50) NOT NULL );
```

```
CREATE TABLE FLIGHT(  
  FlightNumber CHAR(10) PRIMARY KEY,  
  Destination VARCHAR(50) NOT NULL,  
  FlightDate DATE NOT NULL,  
  DepartureTime Timestamp(0) NOT NULL,  
  ArrivalTime Timestamp(0) NOT NULL,  
  FlightTime Timestamp(0) NOT NULL,  
  AirlineCode CHAR(10),  
  CONSTRAINT AirlineCode_FK FOREIGN KEY( AirlineCode) REFERENCES Airline(  
    AirlineCode) );
```

```
CREATE TABLE AIRPLANE(  
  AirplaneID NUMBER(10) PRIMARY KEY,  
  AircraftType CHAR(10) NOT NULL,  
  SeatCapacity NUMBER (38) NOT NULL,  
  AirlineCode CHAR(10) NOT NULL,  
  CONSTRAINT AirlineCodeAirplane_FK FOREIGN KEY( AirlineCode) REFERENCES  
    Airline( AirlineCode) );
```

```
CREATE TABLE RESERVATION(  
  ReservationID NUMBER(10) PRIMARY KEY,  
  PassengerID NUMBER(10) NOT NULL,  
  FlightNumber CHAR(10) NOT NULL,  
  ReservationDate DATE NOT NULL,  
  SeatNumber CHAR(4) NOT NULL,  
  Cost DEC(8,2) NOT NULL,  
  TravelClassID NUMBER(10) NOT NULL,  
  ReservationStatusID NUMBER(10) NOT NULL,  
  CONSTRAINT PassengerIDD_FK FOREIGN KEY(PassengerID) REFERENCES  
    Passenger(PassengerID),  
  CONSTRAINT FlightNumber_FK FOREIGN KEY(FlightNumber) REFERENCES  
    Flight(FlightNumber),
```

```
CONSTRAINT TravelClassID_FK FOREIGN KEY(TravelClassID) REFERENCES
Travel_Class(TravelClassID),
CONSTRAINT ReservationStatusID_FK FOREIGN KEY(ReservationStatusID)
REFERENCES Reservation_Status(ReservationStatusID)
);
```

```
CREATE TABLE AIRPORT(
AirportCode CHAR(10) PRIMARY KEY,
AirportName VARCHAR(20) NOT NULL,
City VARCHAR(30) NOT NULL,
State VARCHAR(35) NOT NULL)
```

```
CREATE TABLE FLIGHT_DESTINATION_AIRPORT(
FlightNumber CHAR(10) NOT NULL,
AirportCode CHAR(10) NOT NULL,
CONSTRAINT FlightNumberF_AirportCode_PK PRIMARY KEY(FlightNumber,
AirportCode),
CONSTRAINT FlightNumberFlightF_FK FOREIGN KEY(FlightNumber) REFERENCES
FLIGHT (FlightNumber),
CONSTRAINT AirportCodeCode_FK FOREIGN KEY(AirportCode) REFERENCES Airport
(AirportCode));
```

```
CREATE TABLE FLIGHT_ARRIVAL_AIRPORT(
FlightNumber CHAR(10) NOT NULL,
AirportCode CHAR(10) NOT NULL,
CONSTRAINT FlightNumberAirportCode_PK PRIMARY KEY(FlightNumber,
AirportCode),
CONSTRAINT FlightNumberFlight_FK FOREIGN KEY (FlightNumber) REFERENCES
FLIGHT(FlightNumber),
CONSTRAINT AirportCodeC_FK FOREIGN KEY (AirportCode) REFERENCES
Airport(AirportCode));
```

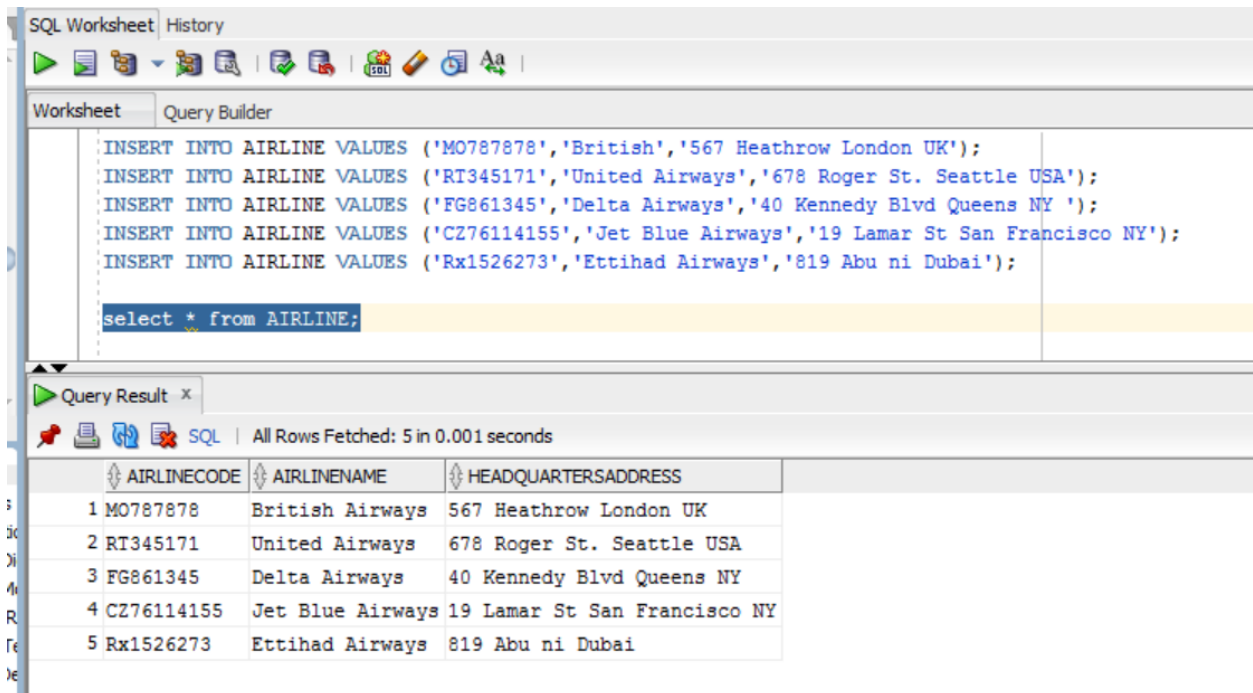
```
CREATE TABLE LANDING_AIRPORT(
AirportCode CHAR(10) NOT NULL,
AirplaneID NUMBER(10) NOT NULL,
CONSTRAINT AirportCode_AirplaneID_PK PRIMARY KEY(AirportCode,AirplaneID),
```

```

        CONSTRAINT AirportCode_FK FOREIGN KEY (AirportCode) REFERENCES
        Airport(AirportCode),
        CONSTRAINT AirplaneIDD_FK FOREIGN KEY (AirplaneID) REFERENCES
        Airplane(AirplaneID));

```

## 7. INSERT STATEMENT



The screenshot shows an SQL Worksheet interface with a 'Query Builder' tab. The SQL editor contains five INSERT statements for the AIRLINE table, followed by a SELECT statement to retrieve all data from the table. Below the editor, the 'Query Result' section displays a table with 5 rows of data fetched in 0.001 seconds.

**SQL Statements:**

```

INSERT INTO AIRLINE VALUES ('M0787878','British','567 Heathrow London UK');
INSERT INTO AIRLINE VALUES ('RT345171','United Airways','678 Roger St. Seattle USA');
INSERT INTO AIRLINE VALUES ('FG861345','Delta Airways','40 Kennedy Blvd Queens NY ');
INSERT INTO AIRLINE VALUES ('CZ76114155','Jet Blue Airways','19 Lamar St San Francisco NY');
INSERT INTO AIRLINE VALUES ('Rx1526273','Ettihad Airways','819 Abu ni Dubai');

select * from AIRLINE;

```

**Query Result:**

	AIRLINECODE	AIRLINENAME	HEADQUARTERSADDRESS
1	M0787878	British Airways	567 Heathrow London UK
2	RT345171	United Airways	678 Roger St. Seattle USA
3	FG861345	Delta Airways	40 Kennedy Blvd Queens NY
4	CZ76114155	Jet Blue Airways	19 Lamar St San Francisco NY
5	Rx1526273	Ettihad Airways	819 Abu ni Dubai

Worksheet

Query Builder

```
INSERT INTO FLIGHT VALUES('BBFGGGGG5','London','03-JUNE-17','03-JUNE-17 10.03.20','03-JUNE-17 10.03.20','03-JUNE-17 10.03.20','RT345171');
INSERT INTO FLIGHT VALUES('FT099999','France','12-APR-17','12-APR-17 08.03.22','13-APR-17 10.06.00','12-APR-17 10.03.20','MO787878 ');
INSERT INTO FLIGHT VALUES('PL815262','Berlin','08-MAY-17','08-MAY-17 04.40.00','09-MAY-17 06.11.55','08-MAY-17 04.40.0','FG861345');
INSERT INTO FLIGHT VALUES('HT135262','Missouri','13-JAN-17','13-JAN-17 02.18.59','14-JAN-17 10.03.20','13-JAN-17 02.18.59','CZ76114155');
INSERT INTO FLIGHT VALUES('AA82920','Boston','07-SEP-17','07-SEP-17 11.30.11','08-SEP-17 05.15.15','07-SEP-17 11.30.11','Rx1526273');

select * from FLIGHT;
```

Query Result x

All Rows Fetched: 5 in 0.002 seconds

FLIGHTNUMBER	DESTINATION	FLIGHTDATE	DEPARTURETIME	ARRIVALTIME	FLIGHTTIME	AIRLINECODE
1 BBFGGGGG5	London	03-JUN-17	03-JUN-17 10.03.20.000000000 AM	03-JUN-17 10.03.20.000000000 AM	03-JUN-17 10.03.20.000000000 AM	RT345171
2 FT099999	France	12-APR-17	12-APR-17 08.03.22.000000000 AM	13-APR-17 10.06.00.000000000 AM	12-APR-17 10.03.20.000000000 AM	MO787878
3 PL815262	Berlin	08-MAY-17	08-MAY-17 04.40.00.000000000 AM	09-MAY-17 06.11.55.000000000 AM	08-MAY-17 04.40.00.000000000 AM	FG861345
4 AA82920	Boston	07-SEP-17	07-SEP-17 11.30.11.000000000 AM	08-SEP-17 05.15.15.000000000 AM	07-SEP-17 11.30.11.000000000 AM	Rx1526273
5 HT135262	Missouri	13-JAN-17	13-JAN-17 02.18.59.000000000 AM	14-JAN-17 10.03.20.000000000 AM	13-JAN-17 02.18.59.000000000 AM	CZ76114155

</



Worksheet Query Builder

```
INSERT INTO FLIGHT_ARRIVAL_AIRPORT VALUES ('BBFGGGGGG5', 'AAA1111111');
INSERT INTO FLIGHT_ARRIVAL_AIRPORT VALUES ('FT0999999', 'BBB2222222');
INSERT INTO FLIGHT_ARRIVAL_AIRPORT VALUES ('PL8152627', 'CCC3333333');
INSERT INTO FLIGHT_ARRIVAL_AIRPORT VALUES ('BBFGGGGGG5', 'HT135262');
INSERT INTO FLIGHT_ARRIVAL_AIRPORT VALUES ('BBFGGGGGG5', 'AA82920');

select * from FLIGHT_ARRIVAL_AIRPORT;
```

Query Result x

SQL | All Rows Fetched: 5 in 0.002 seconds

	FLIGHTNUMBER	AIRPORTCODE
1	BBFGGGGGG5	AAA1111111
2	FT0999999	BBB2222222
3	PL8152627	CCC3333333
4	BBFGGGGGG5	HT135262
5	BBFGGGGGG5	AA82920

**8. # 1. SELECT Query RETURNING ALL COLUMNS OF ONE RECORD ONLY BASED ON PRIMARY KEY for AIRLINE Table.**

SQL Worksheet History

Worksheet Query Builder

```
select * from AIRLINE
where AIRLINECODE = 'M0787878';
```

Query Result x

SQL | All Rows Fetched: 1 in 0.003 seconds

	AIRLINECODE	AIRLINENAME	HEADQUARTERSADDRESS
1	M0787878	British Airways	567 Heathrow London UK

## # 2. SELECT QUERY RETURNING ALL COLUMNS OF MULTIPLE RECORDS BASED ON SOME CRITERIA FOR AIRPORT TABLE.

The screenshot shows a database query editor with the following tabs: 'Start Page', 'InsertTable.sql', 'CreateTable.sql', and 'AGENCY\_DIS'. The 'Query Builder' tab is active, displaying the following SQL query:

```
SELECT * from AIRPORT
WHERE state LIKE '%Ne%';
```

Below the query editor, the 'Query Result' tab shows the results of the query. It indicates 'All Rows Fetched: 3 in 0.003 seconds'. The results are displayed in a table with the following columns: AIRPORTCODE, AIRPORTNAME, CITY, and STATE.

	AIRPORTCODE	AIRPORTNAME	CITY	STATE
1	AAA1111111	John F Keneddy	New York	New York
2	BBB2222222	Newark	Newark	New Jersey
3	EEE5555555	La Guardia	New York	New York

## # 3. Create SELECT Statements that queries ALL THREE of the CHOSEN TABLE WITH DATA, RETURNING SOME COLUMNS OF ONE RECORD ON A CRITERIA FOR SOME BUSINESS SCENARIO.

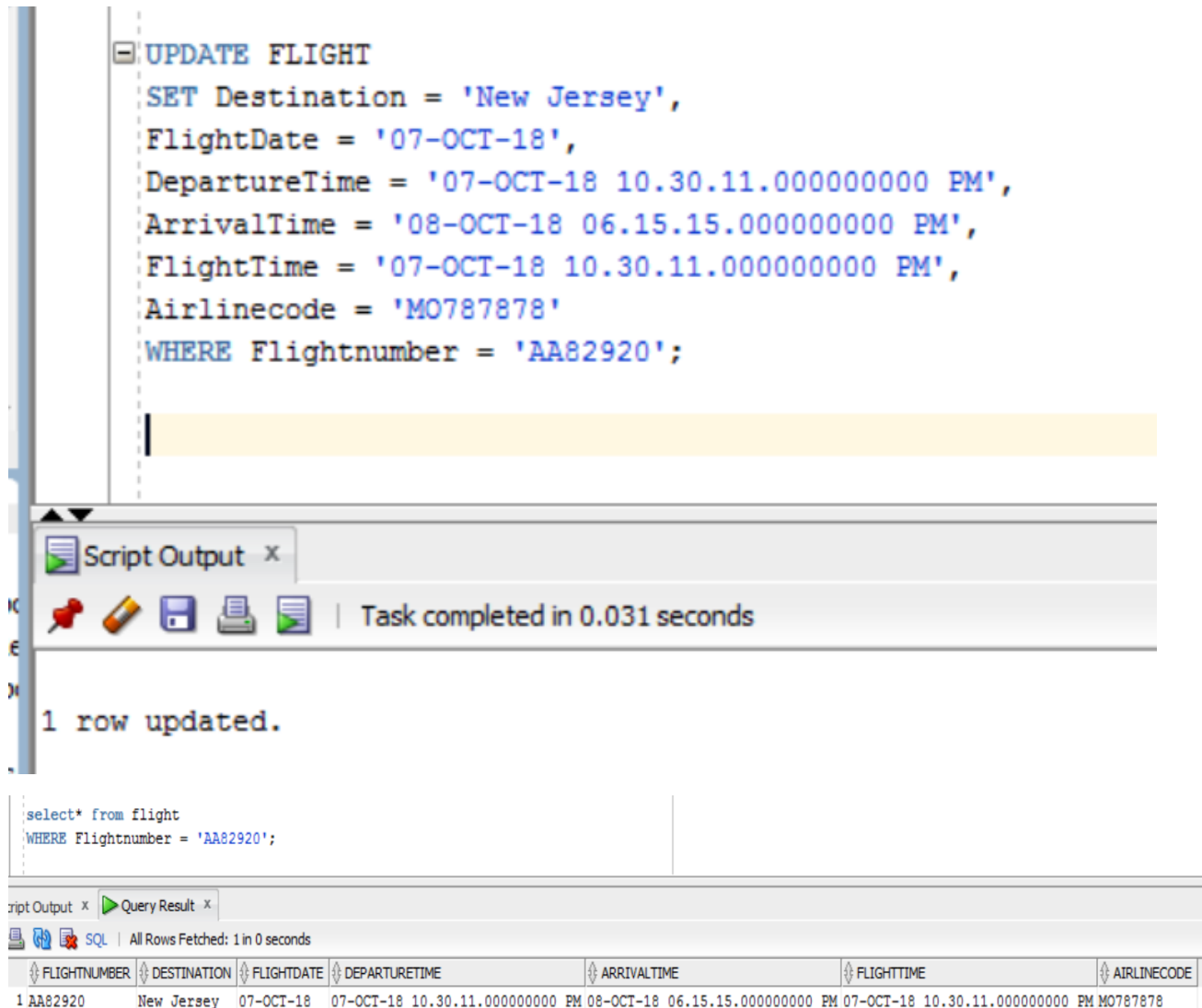
The screenshot shows a database query editor with the following SQL query:

```
SELECT FLIGHT.FlightNumber, FLIGHT.Destination, FLIGHT.FlightTime, FLIGHT_ARRIVAL_AIRPORT.AirportCode,
AIRPORT.AirportName, AIRLINE.AirlineName, AIRLINE.HeadquartersAddress
FROM FLIGHT
JOIN FLIGHT_ARRIVAL_AIRPORT ON FLIGHT.Flightnumber = FLIGHT_ARRIVAL_AIRPORT.Flightnumber
JOIN AIRPORT on AIRPORT.airportcode = flight_arrival_airport.airportcode
JOIN AIRLINE ON flight.airlinecode = airline.airlinecode
WHERE FLIGHT.Destination = 'London';
```

Below the query editor, the 'Query Result' tab shows the results of the query. It indicates 'All Rows Fetched: 1 in 0 seconds'. The results are displayed in a table with the following columns: FLIGHTNUMBER, DESTINATION, FLIGHTTIME, AIRPORTCODE, AIRPORTNAME, AIRLINENAME, and HEADQUARTERSADDRESS.

	FLIGHTNUMBER	DESTINATION	FLIGHTTIME	AIRPORTCODE	AIRPORTNAME	AIRLINENAME	HEADQUARTERSADDRESS
1	BBFGGGGG5	London	03-JUN-17 10.03.20.000000000 AM	AAA1111111	John F Keneddy	United Airways	678 Roger St. Seattle USA

**9. Create UPDATE Statements that UPDATES ONE of the CHOSEN TABLE WITH DATA, UPDATING ALL COLUMNS OF ONE RECORD ONLY BASED ON PRIMARY KEY**



The screenshot displays a SQL IDE interface. The main editor shows an SQL UPDATE statement for a table named 'FLIGHT'. The statement sets various fields to new values and filters by 'Flightnumber = 'AA82920''. Below the editor, a 'Script Output' window shows the message '1 row updated.' and the execution time 'Task completed in 0.031 seconds'. At the bottom, a 'Query Result' window shows a table with the updated record.

```
UPDATE FLIGHT
SET Destination = 'New Jersey',
FlightDate = '07-OCT-18',
DepartureTime = '07-OCT-18 10.30.11.000000000 PM',
ArrivalTime = '08-OCT-18 06.15.15.000000000 PM',
FlightTime = '07-OCT-18 10.30.11.000000000 PM',
Airlinecode = 'M0787878'
WHERE Flightnumber = 'AA82920';
```

Script Output x

Task completed in 0.031 seconds

1 row updated.

```
select* from flight
WHERE Flightnumber = 'AA82920';
```

Script Output x Query Result x

SQL | All Rows Fetched: 1 in 0 seconds

FLIGHTNUMBER	DESTINATION	FLIGHTDATE	DEPARTURETIME	ARRIVALTIME	FLIGHTTIME	AIRLINECODE
1 AA82920	New Jersey	07-OCT-18	07-OCT-18 10.30.11.000000000 PM	08-OCT-18 06.15.15.000000000 PM	07-OCT-18 10.30.11.000000000 PM	M0787878

**Create UPDATE Statements that UPDATES THE ASSOCIATIVE ENTITY of the WITH DATA, UPDATING A RECORD**

```

AIRLINE
HEADQUARTERS
RPLANE
REPORT
/*
Create UPDATE Statements that UPDATES
THE ASSOCIATIVE ENTITY of the WITH DATA,
UPDATING A RECORD
*/
UPDATE Airline
SET AirlineCode = (SELECT Flight.AirlineCode
                   FROM Flight
                   WHERE Flight.FlightNumber = Airline.AirlineCode)
WHERE EXISTS (SELECT Flight.Destination
              FROM Flight
              WHERE Flight.FlightNumber = Airline.AirlineCode);
/*

```

## 10. Create DELETE Statements that DELETES ONE row ONE RECORD BASED ON PRIMARY KEY FROM ONE of the CHOSEN TABLE WITH DATA(NOT ASSOCIATIVE TABLE)

SQL | All Rows Fetched: 5 in 0.002 seconds

	FLIGHTNUMBER	DESTINATION	FLIGHTDATE	DEPARTURETIME	ARRIVALTIME	FLIGHTTIME	AIRLINECODE
1	BBFGGGGG5	London	03-JUN-17	03-JUN-17 10.03.20.000000000 AM	03-JUN-17 10.03.20.000000000 AM	03-JUN-17 10.03.20.000000000 AM	RT345171
2	FT099999	France	12-APR-17	12-APR-17 08.03.22.000000000 AM	13-APR-17 10.06.00.000000000 AM	12-APR-17 10.03.20.000000000 AM	MO787878
3	PL8152627	Berlin	08-MAY-17	08-MAY-17 04.40.00.000000000 AM	09-MAY-17 06.11.55.000000000 AM	08-MAY-17 04.40.00.000000000 AM	FG861345
4	AA82920	New Jersey	07-OCT-18	07-OCT-18 10.30.11.000000000 PM	08-OCT-18 06.15.15.000000000 PM	07-OCT-18 10.30.11.000000000 PM	MO787878
5	HT135262	Missouri	13-JAN-17	13-JAN-17 02.18.59.000000000 AM	14-JAN-17 10.03.20.000000000 AM	13-JAN-17 02.18.59.000000000 AM	CZ76114155

```

DELETE FROM FLIGHT
WHERE FLIGHTNUMBER = 'HT135262';

SELECT * FROM FLIGHT;

```

cript Output x | Query Result x | Query Result 1 x | Query Result 2 x | Query Result 3 x | Query Result 4 x

SQL | All Rows Fetched: 4 in 0.002 seconds

	FLIGHTNUMBER	DESTINATION	FLIGHTDATE	DEPARTURETIME	ARRIVALTIME	FLIGHTTIME	AIRLINECODE
1	BBFGGGGG5	London	03-JUN-17	03-JUN-17 10.03.20.000000000 AM	03-JUN-17 10.03.20.000000000 AM	03-JUN-17 10.03.20.000000000 AM	RT345171
2	FT099999	France	12-APR-17	12-APR-17 08.03.22.000000000 AM	13-APR-17 10.06.00.000000000 AM	12-APR-17 10.03.20.000000000 AM	MO787878
3	PL8152627	Berlin	08-MAY-17	08-MAY-17 04.40.00.000000000 AM	09-MAY-17 06.11.55.000000000 AM	08-MAY-17 04.40.00.000000000 AM	FG861345
4	AA82920	New Jersey	07-OCT-18	07-OCT-18 10.30.11.000000000 PM	08-OCT-18 06.15.15.000000000 PM	07-OCT-18 10.30.11.000000000 PM	MO787878

Create DELETE Statements that DELETES ONE RECORD BASED ON PRIMARY KEY from ASSOCIATIVE TABLE of the CHOSEN TABLE GROUP.

(we violated the FOREIGN KEY constraint AirlineCode\_FK and record CANNOT be deleted).

```
DELETE FROM AIRLINE
WHERE AIRLINECODE = 'MO787878';
-- MO787878
```

Script Output x

Task completed in 0.031 seconds

Error starting at line : 99 in command -  
DELETE FROM AIRLINE  
WHERE AIRLINECODE = 'MO787878'  
Error report -  
ORA-02292: integrity constraint (SYSTEM.AIRLINECODE\_FK) violated - child record found

Therefore, I first deleted the row in Child Table (Flight) first.

```
DELETE FROM FLIGHT
WHERE AIRLINECODE = 'MO787878';

DELETE FROM AIRLINE
WHERE AIRLINECODE = 'MO787878';

SELECT * FROM FLIGHT;
```

Script Output x Query Result x

All Rows Fetched: 2 in 0 seconds

	FLIGHTNUMBER	DESTINATION	FLIGHTDATE	DEPARTURETIME	ARRIVALTIME	FLIGHTTIME	AIRLINECODE
1	BBFGGGGG5	London	03-JUN-17	03-JUN-17 10.03.20.000000000	AM 03-JUN-17 10.03.20.000000000	AM 03-JUN-17 10.03.20.000000000	AM RI345171
2	PL8152627	Berlin	08-MAY-17	08-MAY-17 04.40.00.000000000	AM 09-MAY-17 06.11.55.000000000	AM 08-MAY-17 04.40.00.000000000	AM FG861345