Name: ____Pan Chen_____

Lab 5 Exercise

/*Create the tables*/

CREATE TABLE States

(

stateAbbr VARCHAR(2) PRIMARY KEY,

stateName VARCHAR(20) NOT NULL

);

CREATE TABLE City

(

cityKey CHAR(8) PRIMARY KEY,

cityName VARCHAR(25) NOT NULL,

stateAbbr VARCHAR(2) NOT NULL

);

CREATE TABLE Airport

(

airportID CHAR(3) PRIMARY KEY,

airportName VARCHAR(45) NOT NULL UNIQUE,

cityKey CHAR(8) NOT NULL

);

SELECT * FROM Airport;

CREATE TABLE FlightRoute

(

flightNumber VARCHAR(6) PRIMARY KEY,

departAirport CHAR(3) NOT NULL,

arriveAirport CHAR(3) NOT NULL,

scheduledDepartTime TIME NOT NULL,

scheduledArrivalTime TIME NOT NULL

);

SELECT * FROM FlightRoute;

CREATE TABLE FlightSchedule

(

flightNumber VARCHAR(6) NOT NULL,

flightDATE DATE NOT NULL,

statusID CHAR(1) NOT NULL CHECK(statusID IN ('O', 'd', 'c')),

airplaneID CHAR(8) NOT NULL,

delayDepartTime TIME,

delayArrivalTime TIME,

CONSTRAINT FlightSchedule_PK PRIMARY KEY(flightNumber, flightDATE)

);

```
CREATE TABLE Status

(

statusID CHAR(1) NOT NULL CHECK(statusID IN ('O', 'd', 'c')),

description VARCHAR(20) NOT NULL,

);


CREATE TABLE Airplane

(

airplaneID CHAR(8) PRIMARY KEY,

aircraftTypeID CHAR(8) NOT NULL,

purchaseDate DATE NOT NULL DEFAULT '01/01/2012'

);


CREATE TABLE AircraftSpecs

(

aircraftTypeID CHAR(8) PRIMARY KEY,

aircraftVersion VARCHAR(10) NOT NULL,

cabinNumOfSeats INT,

fuelCapacity INT NOT NULL


);
/*add FKs*/


ALTER TABLE Airport
```

ADD CONSTRAINT Airport_FK FOREIGN KEY (cityKey) REFERENCES City(cityKey);

ALTER TABLE FlightRoute

ADD CONSTRAINT departAirport_FK FOREIGN KEY (departAirport) REFERENCES Airport(airportID);

ALTER TABLE FlightRoute

ADD CONSTRAINT arriveAirport_FK FOREIGN KEY (arriveAirport) REFERENCES Airport(airportID);

ALTER TABLE City

ADD CONSTRAINT stateAbbr_FK FOREIGN KEY (stateAbbr) REFERENCES States(stateAbbr);

ALTER TABLE Status

ADD CONSTRAINT Status_PK PRIMARY KEY(StatusID);

ALTER TABLE FlightSchedule

ADD CONSTRAINT statusID_FK FOREIGN KEY (statusID) REFERENCES Status(statusID);

ALTER TABLE FlightSchedule

ADD CONSTRAINT flightNumber_FK FOREIGN KEY (flightNumber) REFERENCES FlightRoute(flightNumber);

ALTER TABLE FlightSchedule

ADD CONSTRAINT airplaneID_FK FOREIGN KEY (airplaneID) REFERENCES Airplane(airplaneID);

ALTER TABLE Airplane

ADD CONSTRAINT aircraftTypeID_FK FOREIGN KEY (aircraftTypeID) REFERENCES AircraftSpecs(aircraftTypeID);
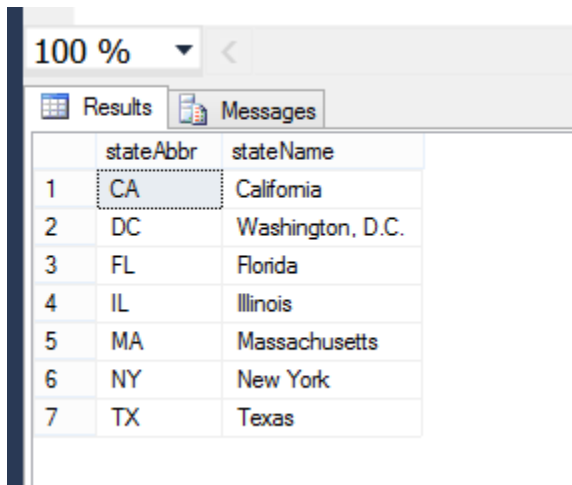

/*Populating*/

INSERT INTO States VALUES ('CA', 'California');

INSERT INTO States VALUES ('DC', 'Washington, D.C.');

INSERT INTO States VALUES ('FL', 'Florida');

INSERT INTO States VALUES ('IL', 'Illinois');

INSERT INTO States VALUES ('MA', 'Massachusetts');

INSERT INTO States VALUES ('NY', 'New York');

INSERT INTO States VALUES ('TX', 'Texas');

SELECT * FROM States;

	stateAbbr	stateName
1	CA	California
2	DC	Washington, D.C.
3	FL	Florida
4	IL	Illinois
5	MA	Massachusetts
6	NY	New York
7	TX	Texas

INSERT INTO City VALUES ('C001', 'Los Angeles', 'CA');

INSERT INTO City VALUES ('C002', 'San Francisco', 'CA');

INSERT INTO City VALUES ('C003', 'Washington. D.C.', 'DC');

INSERT INTO City VALUES ('C004', 'Miami', 'FL');

INSERT INTO City VALUES ('C005', 'Orlando', 'FL');

INSERT INTO City VALUES ('C006', 'Chicago', 'IL');

INSERT INTO City VALUES ('C007', 'Boston', 'MA');

INSERT INTO City VALUES ('C008', 'New York', 'NY');

INSERT INTO City VALUES ('C009', 'Syracuse', 'NY');

SELECT * FROM City;

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▦ Results   🗎 Messages

	cityKey	cityName	stateAbbr
1	C001	Los Angeles	CA
2	C002	San Francisco	CA
3	C003	Washington. D.C.	DC
4	C004	Miami	FL
5	C005	Orlando	FL
6	C006	Chicago	IL
7	C007	Boston	MA
8	C008	New York	NY
9	C009	Syracuse	NY

INSERT INTO Airport VALUES ('BOS', 'Chen', 'C007');

INSERT INTO Airport VALUES ('DCA', 'Ronald Reagan National Airport', 'C003');

INSERT INTO Airport VALUES ('IAD', 'Washington Dulles International Airport', 'C003');

INSERT INTO Airport VALUES ('JFK', 'John F. Kennedy International Airport', 'C008');

INSERT INTO Airport VALUES ('LAX', 'Los Angeles International Airport', 'C001');

INSERT INTO Airport VALUES ('LGA', 'LaGuardia Airport', 'C008');

INSERT INTO Airport VALUES ('MCO', 'Orlando International Airport', 'C005');

INSERT INTO Airport VALUES ('MDW', 'Chicago Midway International Airport', 'C006');

INSERT INTO Airport VALUES ('MIA', 'Miami International Airport', 'C004');

INSERT INTO Airport VALUES ('ORD', 'Chicago OHare International Airport', 'C006');

INSERT INTO Airport VALUES ('SFO', 'San Francisco International Airport', 'C002');

INSERT INTO Airport VALUES ('SYR', 'Syracuse Hancock International Airport', 'C009');

SELECT * FROM Airport;

	airportID	airportName	cityKey
1	BOS	Chen	C007
2	DCA	Ronald Reagan National Airport	C003
3	IAD	Washington Dulles International Airport	C003
4	JFK	John F. Kennedy International Airport	C008
5	LAX	Los Angeles International Airport	C001
6	LGA	LaGuardia Airport	C008
7	MCO	Orlando International Airport	C005
8	MDW	Chicago Midway International Airport	C006
9	MIA	Miami International Airport	C004
10	ORD	Chicago OHare International Airport	C006
11	SFO	San Francisco International Airport	C002
12	SYR	Syracuse Hancock International Airport	C009

INSERT INTO FlightRoute VALUES ('3310', 'SYR', 'JFK', '08:00:00', '09:02:00');

INSERT INTO FlightRoute VALUES ('3312', 'JFK', 'SYR', '12:20:00', '13:30:00');

INSERT INTO FlightRoute VALUES ('3426', 'LAX', 'ORD', '11:15:00', '15:05:00');

INSERT INTO FlightRoute VALUES ('5063', 'BOS', 'MCO', '14:30:00', '18:45:00');

SELECT * FROM FlightRoute;

	flightNumber	departAirport	arriveAirport	scheduledDepartTime	scheduledArrivalTime
1	3310	SYR	JFK	08:00:00.0000000	09:02:00.0000000
2	3312	JFK	SYR	12:20:00.0000000	13:30:00.0000000
3	3426	LAX	ORD	11:15:00.0000000	15:05:00.0000000
4	5063	BOS	MCO	14:30:00.0000000	18:45:00.0000000

INSERT INTO Status VALUES ('C', 'Cancelled');

INSERT INTO Status VALUES ('D', 'Delay');

INSERT INTO Status VALUES ('O', 'On Time');

SELECT * FROM Status;

	statusID	Description
1	C	Cancelled
2	D	Delay
3	O	On Time

INSERT INTO AircraftSpecs VALUES ('AIR1', 'A321-200', '220', '7930');

INSERT INTO AircraftSpecs VALUES ('AIR2', '737-600ER', '132', '6875');

INSERT INTO AircraftSpecs VALUES ('BOE1', '747-400ER', '416', '63705');

INSERT INTO AircraftSpecs VALUES ('BOE2', '767-300ER', '350', '23980');

INSERT INTO AircraftSpecs VALUES ('BOE3', '737-600ER', '132', '6875');

SELECT * FROM AircraftSpecs;

	aircraftTypeID	aircraftVersion	cabinNumOfSeats	fuelCapacity
1	AIR1	A321-200	220	7930
2	AIR2	737-600ER	132	6875
3	BOE1	747-400ER	416	63705
4	BOE2	767-300ER	350	23980
5	BOE3	737-600ER	132	6875

INSERT INTO Airplane VALUES ('AP098640', 'AIR2', '2013-03-01');

INSERT INTO Airplane VALUES ('AP239471', 'AIR1', '1900-01-01');

INSERT INTO Airplane VALUES ('AP309814', 'BOE2', '2012-05-22');

INSERT INTO Airplane VALUES ('AP629342', 'BOE1', '1900-01-01');

INSERT INTO Airplane VALUES ('AP872139', 'BOE3', '1900-01-01');

INSERT INTO Airplane VALUES ('AP998911', 'BOE2', '1900-01-01');

SELECT * FROM Airplane;

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Results   Messages

	airplaneID	aircraftTypeID	purchaseDate
1	AP098640	AIR2	2013-03-01
2	AP239471	AIR1	1900-01-01
3	AP309814	BOE2	2012-05-22
4	AP629342	BOE1	1900-01-01
5	AP872139	BOE3	1900-01-01
6	AP998911	BOE2	1900-01-01

INSERT INTO FlightSchedule (flightNumber, flightDate, statusID, airplaneID) VALUES ('3310', '2014-02-10', 'O', 'AP629342');

INSERT INTO FlightSchedule (flightNumber, flightDate, statusID, airplaneID) VALUES ('3310', '2014-02-11', 'O', 'AP629342');

INSERT INTO FlightSchedule (flightNumber, flightDate, statusID, airplaneID) VALUES ('3312', '2014-02-10', 'O', 'AP872139');

INSERT INTO FlightSchedule (flightNumber, flightDate, statusID, airplaneID) VALUES ('3426', '2014-02-12', 'O', 'AP239471');

INSERT INTO FlightSchedule VALUES ('5063', '2014-02-13', 'O', 'AP309814', '15:40:00', '20:05:00');

SELECT * FROM FlightSchedule;

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Results   Messages

	flightNumber	flightDATE	statusID	airplaneID	delayDepartTime	delayArrivalTime
1	3310	2014-02-10	O	AP629342	NULL	NULL
2	3310	2014-02-11	O	AP629342	NULL	NULL
3	3312	2014-02-10	O	AP872139	NULL	NULL
4	3426	2014-02-12	O	AP239471	NULL	NULL
5	5063	2014-02-13	O	AP309814	15:40:00.0000000	20:05:00.0000000