SQL> set echo on;

SQL> @D:/ex7.sql

SQL> set echo on;

SQL> @D:/air\_cre.sql

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> --CS 2258

SQL> --DBMS Lab

SQL> -- Computer Science Department

SQL> -- SSN College of Engineering

SQL> --

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> -- AIRLINES DATASET

SQL> -- Version 1.0

SQL> -- February 05, 2013

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> --Sources:

SQL> -- This dataset is prepared for the assignment

SQL> -- on Subqueries and Join in SQL to students. This

SQL> -- is a test dataset.

SQL> -- The below SQL create the relations for airlines

SQL> -- database with constraints.

SQL> --

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL>

SQL> drop table fl\_schedule;

Table dropped.

SQL> drop table flights;

Table dropped.

SQL> drop table routes;

Table dropped.

SQL> drop table certified;

Table dropped.

SQL> drop table employee;

Table dropped.

SQL> drop table aircraft;

Table dropped.

SQL>

SQL> create table aircraft(

2 aid number(4) constraint aid\_pk primary key,

3 aname varchar2(30),

4 type varchar2(10),

5 cruisingrange number(6)

6 );

Table created.

SQL>

SQL> create table employee(

2 eid number(9) constraint eid\_pk primary key,

3 ename varchar2(30),

4 salary number(10,2)

5 );

Table created.

SQL>

SQL> create table certified(

2 eid number(9),

3 aid number(4),

4 constraint eaid\_pk primary key(eid,aid),

5 constraint eid\_fk foreign key(eid) references employee,

6 constraint aid\_fk foreign key(aid) references aircraft

7 );

Table created.

SQL>

SQL> create table routes(

2 routeID varchar2(6) constraint rid\_pk primary key,

3 orig\_airport varchar2(20),

4 dest\_airport varchar2(20),

5 distance number(6)

6 );

Table created.

SQL>

SQL> create table flights(

2 flightNo varchar2(7) constraint fno\_pk primary key,

3 rID varchar2(6),

4 aid number(4),

5 constraint fl\_aid\_fk foreign key(aid) references aircraft,

6 constraint rid\_fk foreign key(rid) references routes

7 );

Table created.

SQL>

SQL> create table fl\_schedule(

2 flno varchar2(7),

3 departs date,

4 dtime number(4),

5 arrives date,

6 atime number(4),

7 price number(7,2),

8 constraint fno\_dep\_pk primary key (flno,departs),

9 constraint fno\_fk foreign key(flno) references flights

10 );

Table created.

SQL>

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*END OF CREATE\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> @D:/air\_pop.sql

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> --CS 2258 B.Senthil Kumar

SQL> --DBMS Lab Asst. Prof

SQL> -- Computer Science Department

SQL> -- SSN College of Engineering

SQL> -- senthil@ssn.edu.in

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> -- AIRLINES DATASET

SQL> -- Version 1.0

SQL> -- February 05, 2013

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> --Sources:

SQL> -- This dataset is prepared for the assignment

SQL> -- on Subqueries and Join in SQL to students. This

SQL> -- is a test dataset.

SQL> -- The below SQL statements will populate the

SQL> -- airlines database. The flight schedule contains

SQL> -- information pertained to flights during 12 to 22

SQL> -- April 2005. Do NOT MODIFY the instances.

SQL> --

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL> --

SQL> -- Populating Aircraft

SQL> --aircraft(aid, aname, type, cruisingrange)

SQL>

SQL> INSERT INTO aircraft VALUES (1,'Boeing 747-400','Boeing',8430);

1 row created.

SQL> INSERT INTO aircraft VALUES (2,'Boeing 737-800','Boeing',3383);

1 row created.

SQL> INSERT INTO aircraft VALUES (3,'Airbus A340-300','Airbus',7120);

1 row created.

SQL> INSERT INTO aircraft VALUES (4,'British Aerospace Jetstream 41','BAe',1502);

1 row created.

SQL> INSERT INTO aircraft VALUES (5,'Embraer ERJ-145','Embraer',1530);

1 row created.

SQL> INSERT INTO aircraft VALUES (6,'SAAB 340','Saab',2128);

1 row created.

SQL> INSERT INTO aircraft VALUES (7,'Piper PA-46 Meridian','Piper',520);

1 row created.

SQL> INSERT INTO aircraft VALUES (8,'Tupolev Tu-154','Tupolev',4103);

1 row created.

SQL> INSERT INTO aircraft VALUES (16,'Schweizer 2-33','Schweizer',300);

1 row created.

SQL> INSERT INTO aircraft VALUES (9,'Lockheed L1011 Tristar','Lockheed',6900);

1 row created.

SQL> INSERT INTO aircraft VALUES (10,'Boeing 757-300','Boeing',4010);

1 row created.

SQL> INSERT INTO aircraft VALUES (11,'Boeing 777-300','Boeing',6441);

1 row created.

SQL> INSERT INTO aircraft VALUES (12,'Boeing 767-400ER','Boeing',6475);

1 row created.

SQL> INSERT INTO aircraft VALUES (13,'Airbus A320','Airbus',2605);

1 row created.

SQL> INSERT INTO aircraft VALUES (14,'Airbus A319','Airbus',1805);

1 row created.

SQL> INSERT INTO aircraft VALUES (15,'Boeing 727','Boeing',1504);

1 row created.

SQL>

SQL>

SQL> -- Populating employee relation

SQL> --employee(eid, ename, salary)

SQL>

SQL> INSERT INTO employee VALUES (242518965,'James Smith',120433);

1 row created.

SQL> INSERT INTO employee VALUES (141582651,'Mary Johnson',178345);

1 row created.

SQL> INSERT INTO employee VALUES (011564812,'John Williams',153972);

1 row created.

SQL> INSERT INTO employee VALUES (567354612,'Lisa Walker',256481);

1 row created.

SQL> INSERT INTO employee VALUES (552455318,'Larry West',101745);

1 row created.

SQL> INSERT INTO employee VALUES (550156548,'Karen Scott',205187);

1 row created.

SQL> INSERT INTO employee VALUES (390487451,'Lawrence Sperry',212156);

1 row created.

SQL> INSERT INTO employee VALUES (274878974,'Michael Miller',99890);

1 row created.

SQL> INSERT INTO employee VALUES (254099823,'Patricia Jones',24450);

1 row created.

SQL> INSERT INTO employee VALUES (356187925,'Robert Brown',44740);

1 row created.

SQL> INSERT INTO employee VALUES (355548984,'Angela Martinez',212156);

1 row created.

SQL> INSERT INTO employee VALUES (310454876,'Joseph Thompson',212156);

1 row created.

SQL> INSERT INTO employee VALUES (489456522,'Linda Davis',127984);

1 row created.

SQL> INSERT INTO employee VALUES (489221823,'Richard Jackson',23980);

1 row created.

SQL> INSERT INTO employee VALUES (548977562,'William Ward',84476);

1 row created.

SQL> INSERT INTO employee VALUES (310454877,'Chad Stewart',33546);

1 row created.

SQL> INSERT INTO employee VALUES (142519864,'Betty Adams',227489);

1 row created.

SQL> INSERT INTO employee VALUES (269734834,'George Wright',289950);

1 row created.

SQL> INSERT INTO employee VALUES (287321212,'Michael Miller',48090);

1 row created.

SQL> INSERT INTO employee VALUES (552455348,'Dorthy Lewis',92013);

1 row created.

SQL> INSERT INTO employee VALUES (248965255,'Barbara Wilson',43723);

1 row created.

SQL> INSERT INTO employee VALUES (159542516,'William Moore',48250);

1 row created.

SQL> INSERT INTO employee VALUES (348121549,'Haywood Kelly',32899);

1 row created.

SQL> INSERT INTO employee VALUES (090873519,'Elizabeth Taylor',32021);

1 row created.

SQL> INSERT INTO employee VALUES (486512566,'David Anderson',743001);

1 row created.

SQL> INSERT INTO employee VALUES (619023588,'Jennifer Thomas',54921);

1 row created.

SQL> INSERT INTO employee VALUES (015645489,'Donald King',18050);

1 row created.

SQL> INSERT INTO employee VALUES (556784565,'Mark Young',205187);

1 row created.

SQL> INSERT INTO employee VALUES (573284895,'Eric Cooper',114323);

1 row created.

SQL> INSERT INTO employee VALUES (574489456,'William Jones',105743);

1 row created.

SQL> INSERT INTO employee VALUES (574489457,'Milo Brooks',12000);

1 row created.

SQL>

SQL>

SQL> -- Populating Certified relation

SQL> --certified(eid, aid)

SQL>

SQL> INSERT INTO certified VALUES (567354612,1);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,2);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,10);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,11);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,12);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,15);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,7);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,9);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,3);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,4);

1 row created.

SQL> INSERT INTO certified VALUES (567354612,5);

1 row created.

SQL> INSERT INTO certified VALUES (552455318,2);

1 row created.

SQL> INSERT INTO certified VALUES (552455318,14);

1 row created.

SQL> INSERT INTO certified VALUES (550156548,1);

1 row created.

SQL> INSERT INTO certified VALUES (550156548,12);

1 row created.

SQL> INSERT INTO certified VALUES (390487451,3);

1 row created.

SQL> INSERT INTO certified VALUES (390487451,13);

1 row created.

SQL> INSERT INTO certified VALUES (390487451,14);

1 row created.

SQL> INSERT INTO certified VALUES (274878974,10);

1 row created.

SQL> INSERT INTO certified VALUES (274878974,12);

1 row created.

SQL> INSERT INTO certified VALUES (355548984,8);

1 row created.

SQL> INSERT INTO certified VALUES (355548984,9);

1 row created.

SQL> INSERT INTO certified VALUES (310454876,8);

1 row created.

SQL> INSERT INTO certified VALUES (310454876,9);

1 row created.

SQL> INSERT INTO certified VALUES (548977562,7);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,1);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,11);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,12);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,10);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,3);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,2);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,13);

1 row created.

SQL> INSERT INTO certified VALUES (142519864,7);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,1);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,2);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,3);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,4);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,5);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,6);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,7);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,8);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,9);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,10);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,11);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,12);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,13);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,14);

1 row created.

SQL> INSERT INTO certified VALUES (269734834,15);

1 row created.

SQL> INSERT INTO certified VALUES (552455318,7);

1 row created.

SQL> INSERT INTO certified VALUES (556784565,5);

1 row created.

SQL> INSERT INTO certified VALUES (556784565,2);

1 row created.

SQL> INSERT INTO certified VALUES (556784565,3);

1 row created.

SQL> INSERT INTO certified VALUES (573284895,3);

1 row created.

SQL> INSERT INTO certified VALUES (573284895,4);

1 row created.

SQL> INSERT INTO certified VALUES (573284895,5);

1 row created.

SQL> INSERT INTO certified VALUES (574489456,8);

1 row created.

SQL> INSERT INTO certified VALUES (574489456,6);

1 row created.

SQL> INSERT INTO certified VALUES (574489457,16);

1 row created.

SQL> INSERT INTO certified VALUES (287321212,7);

1 row created.

SQL> INSERT INTO certified VALUES (242518965,2);

1 row created.

SQL> INSERT INTO certified VALUES (242518965,10);

1 row created.

SQL> INSERT INTO certified VALUES (141582651,2);

1 row created.

SQL> INSERT INTO certified VALUES (141582651,10);

1 row created.

SQL> INSERT INTO certified VALUES (141582651,12);

1 row created.

SQL> INSERT INTO certified VALUES (011564812,2);

1 row created.

SQL> INSERT INTO certified VALUES (011564812,10);

1 row created.

SQL> INSERT INTO certified VALUES (356187925,6);

1 row created.

SQL> INSERT INTO certified VALUES (159542516,5);

1 row created.

SQL> INSERT INTO certified VALUES (159542516,7);

1 row created.

SQL> INSERT INTO certified VALUES (090873519,6);

1 row created.

SQL>

SQL>

SQL> -- Populating Routes relation

SQL> --routes(routeID, orig\_airport, dest\_airport, distance)

SQL>

SQL> INSERT INTO routes VALUES ('LW100','Los Angeles','Washington D.C.',2308);

1 row created.

SQL> INSERT INTO routes VALUES ('LC101','Los Angeles','Chicago',1749);

1 row created.

SQL> INSERT INTO routes VALUES ('LD102','Los Angeles','Dallas',1251);

1 row created.

SQL> INSERT INTO routes VALUES ('LB103','Los Angeles','Boston',2606);

1 row created.

SQL> INSERT INTO routes VALUES ('LS104','Los Angeles','Sydney',7487);

1 row created.

SQL> INSERT INTO routes VALUES ('LT105','Los Angeles','Tokyo',5478);

1 row created.

SQL> INSERT INTO routes VALUES ('LH106','Los Angeles','Honolulu',2551);

1 row created.

SQL> INSERT INTO routes VALUES ('CL150','Chicago','Los Angeles',1749);

1 row created.

SQL> INSERT INTO routes VALUES ('CN151','Chicago','New York',802);

1 row created.

SQL> INSERT INTO routes VALUES ('MD200','Madison','Detroit',319);

1 row created.

SQL> INSERT INTO routes VALUES ('DN250','Detroit','New York',470);

1 row created.

SQL> INSERT INTO routes VALUES ('DM251','Detroit','Montreal',517);

1 row created.

SQL> INSERT INTO routes VALUES ('MN204','Madison','New York',789);

1 row created.

SQL> INSERT INTO routes VALUES ('MC201','Madison','Chicago',150);

1 row created.

SQL> INSERT INTO routes VALUES ('MP202','Madison','Pittsburgh',510);

1 row created.

SQL> INSERT INTO routes VALUES ('MM203','Madison','Minneapolis',247);

1 row created.

SQL> INSERT INTO routes VALUES ('MNY300','Minneapolis','New York',991);

1 row created.

SQL> INSERT INTO routes VALUES ('PN350','Pittsburgh','New York',303);

1 row created.

SQL> INSERT INTO routes VALUES ('PC351','Pittsburgh','Chicago',409);

1 row created.

SQL> INSERT INTO routes VALUES ('NYL400','New York','London',3471);

1 row created.

SQL> INSERT INTO routes VALUES ('NYP401','New York','Paris',3631);

1 row created.

SQL> INSERT INTO routes values('LNY107','Los Angeles','New York',2510);

1 row created.

SQL>

SQL>

SQL> -- Populating Fligts relations

SQL> --flights(flightNo, rID, aid)

SQL>

SQL> INSERT INTO flights VALUES ('9E-3749','DM251',4);

1 row created.

SQL> INSERT INTO flights VALUES ('MQ-4477','DN250',5);

1 row created.

SQL> INSERT INTO flights VALUES ('MQ-4565','DN250',5);

1 row created.

SQL> INSERT INTO flights VALUES ('CX-7520','LD102',4);

1 row created.

SQL> INSERT INTO flights VALUES ('WS-5060','LD102',5);

1 row created.

SQL> INSERT INTO flights VALUES ('QF-3045','LD102',15);

1 row created.

SQL> INSERT INTO flights VALUES ('JJ-7456','LW100',13);

1 row created.

SQL> INSERT INTO flights VALUES ('JJ-2482','LW100',13);

1 row created.

SQL> INSERT INTO flights VALUES ('SN-8814','LW100',2);

1 row created.

SQL> INSERT INTO flights VALUES ('WN-484','LC101',14);

1 row created.

SQL> INSERT INTO flights VALUES ('WN-434','LC101',13);

1 row created.

SQL> INSERT INTO flights VALUES ('B6-474','LB103',2);

1 row created.

SQL> INSERT INTO flights VALUES ('B6-482','LB103',2);

1 row created.

SQL> INSERT INTO flights VALUES ('VA-6551','LS104',1);

1 row created.

SQL> INSERT INTO flights VALUES ('VA-2','LS104',1);

1 row created.

SQL> INSERT INTO flights VALUES ('DJ-2','LS104',1);

1 row created.

SQL> INSERT INTO flights VALUES ('SQ-11','LT105',11);

1 row created.

SQL> INSERT INTO flights VALUES ('AI-7205','LT105',12);

1 row created.

SQL> INSERT INTO flights VALUES ('MH-93','LT105',11);

1 row created.

SQL> INSERT INTO flights VALUES ('HA-3','LH106',13);

1 row created.

SQL> INSERT INTO flights VALUES ('HA-1','LH106',13);

1 row created.

SQL> INSERT INTO flights VALUES ('UA-1428','LH106',2);

1 row created.

SQL> INSERT INTO flights VALUES ('A5-3376','CL150',14);

1 row created.

SQL> INSERT INTO flights VALUES ('A5-3246','CN151',4);

1 row created.

SQL> INSERT INTO flights VALUES ('9E-3851','MD200',5);

1 row created.

SQL> INSERT INTO flights VALUES ('9E-3622','MD200',4);

1 row created.

SQL> INSERT INTO flights VALUES ('G7-6205','MN204',4);

1 row created.

SQL> INSERT INTO flights VALUES ('EV-5134','MN204',15);

1 row created.

SQL> INSERT INTO flights VALUES ('RP-5018','MC201',16);

1 row created.

SQL> INSERT INTO flights VALUES ('G7-3664','MC201',5);

1 row created.

SQL> INSERT INTO flights VALUES ('FX-2351','MP202',7);

1 row created.

SQL> INSERT INTO flights VALUES ('AS-5958','MM203',16);

1 row created.

SQL> INSERT INTO flights VALUES ('AS-5062','MM203',7);

1 row created.

SQL> INSERT INTO flights VALUES ('DL-3402','PN350',15);

1 row created.

SQL> INSERT INTO flights VALUES ('CY-1846','NYL400',8);

1 row created.

SQL> INSERT INTO flights VALUES ('BA-178','NYL400',10);

1 row created.

SQL> INSERT INTO flights VALUES ('IB-4618','NYL400',9);

1 row created.

SQL> INSERT INTO flights VALUES ('VS-26','NYL400',8);

1 row created.

SQL> INSERT INTO flights VALUES ('AF-23','NYP401',10);

1 row created.

SQL> INSERT INTO flights VALUES ('AF-11','NYP401',10);

1 row created.

SQL> INSERT INTO flights VALUES ('RJ-7056','NYP401',8);

1 row created.

SQL> INSERT INTO flights values('AF-12','LNY107',10);

1 row created.

SQL>

SQL>

SQL> -- Populating Fl\_schedule relation

SQL> --fl\_schedule(flno, departs, dtime, arrives, atime, price)

SQL>

SQL> INSERT INTO fl\_schedule VALUES ('9E-3851','12-apr-2005',0710,'12-apr-2005',0800,120.40);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('CX-7520','12-apr-2005',0730,'12-apr-2005',0840,225.43);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('JJ-7456','12-apr-2005',0930,'12-apr-2005',1240,235.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WS-5060','12-apr-2005',0930,'12-apr-2005',1042,227.60);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('AI-7205','12-apr-2005',1010,'13-apr-2005',1850,785.19);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('CY-1846','12-apr-2005',1040,'13-apr-2005',0920,250.50);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('DL-3402','12-apr-2005',1140,'12-apr-2005',1220,116.50);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('AS-5958','12-apr-2005',1210,'14-apr-2005',1300,220.15);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('QF-3045','12-apr-2005',1320,'12-apr-2005',1440,227.60);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('9E-3749','12-apr-2005',1940,'14-apr-2005',2020,170.40);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('G7-3664','13-apr-2005',0535,'13-apr-2005',0610,112.45);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WN-484','13-apr-2005',0800,'13-apr-2005',0935,220.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('HA-3','13-apr-2005',1230,'13-apr-2005',1555,375.23);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('AS-5062','13-apr-2005',2010,'14-apr-2005',2100,120.11);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('VA-2','13-apr-2005',2030,'15-apr-2005',0430,1300.50);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('A5-3376','13-apr-2005',2030,'13-apr-2005',2150,220.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('FX-2351','14-apr-2005',0810,'14-apr-2005',0900,208.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('AF-23','14-apr-2005',1020,'15-apr-2005',1210,320.70);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('B6-474','14-apr-2005',1710,'14-apr-2005',2120,261.56);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('G7-6205','22-apr-2005',1725,'22-apr-2005',1850,202.34);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('VA-6551','14-apr-2005',2230,'16-apr-2005',0610,1278.56);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('9E-3851','15-apr-2005',1035,'15-apr-2005',1140,120.40);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('HA-1','15-apr-2005',1110,'15-apr-2005',1445,375.23);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('BA-178','15-apr-2005',1140,'16-apr-2005',1020,250.50);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('SQ-11','15-apr-2005',1230,'16-apr-2005',2055,780.99);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('JJ-2482','15-apr-2005',1230,'15-apr-2005',1540,235.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('MQ-4477','15-apr-2005',1510,'15-apr-2005',1600,180.56);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('A5-3246','15-apr-2005',1810,'15-apr-2005',1900,202.45);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('RP-5018','15-apr-2005',2100,'15-apr-2005',2155,225.45);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WS-5060','16-apr-2005',0930,'16-apr-2005',1042,227.60);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WN-484','16-apr-2005',0940,'16-apr-2005',1110,220.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WN-434','16-apr-2005',1410,'16-apr-2005',1530,225.10);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('MH-93','17-apr-2005',0440,'18-apr-2005',1315,783.30);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('G7-3664','17-apr-2005',0725,'17-apr-2005',0815,112.45);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('CX-7520','17-apr-2005',0730,'17-apr-2005',0840,225.43);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('AF-11','17-apr-2005',1340,'18-apr-2005',1530,320.70);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('9E-3622','17-apr-2005',1655,'17-apr-2005',1750,118.40);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('EV-5134','17-apr-2005',2135,'17-apr-2005',2240,202.34);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('B6-482','18-apr-2005',0330,'18-apr-2005',0740,261.56);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('DL-3402','18-apr-2005',1140,'18-apr-2005',1220,116.50);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('IB-4618','18-apr-2005',1310,'19-apr-2005',1150,250.50);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('UA-1428','18-apr-2005',1420,'18-apr-2005',1740,425.38);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('MQ-4565','18-apr-2005',1810,'18-apr-2005',1900,180.56);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('JJ-7456','19-apr-2005',0930,'19-apr-2005',1240,235.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WN-484','19-apr-2005',1000,'19-apr-2005',1120,220.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('QF-3045','19-apr-2005',1320,'19-apr-2005',1440,227.60);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WS-5060','20-apr-2005',0930,'20-apr-2005',1042,227.60);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('RJ-7056','20-apr-2005',1810,'21-apr-2005',2020,320.70);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('FX-2351','21-apr-2005',0810,'21-apr-2005',0900,208.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('AF-23','21-apr-2005',1020,'22-apr-2005',1210,320.70);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('VS-26','21-apr-2005',1340,'22-apr-2005',1230,250.50);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('VA-6551','21-apr-2005',2230,'23-apr-2005',0610,1278.56);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('G7-3664','22-apr-2005',0535,'22-apr-2005',0610,112.45);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('CX-7520','22-apr-2005',0730,'22-apr-2005',0840,225.43);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('SN-8814','22-apr-2005',1030,'22-apr-2005',1335,245);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WN-484','22-apr-2005',1200,'22-apr-2005',1325,220.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('JJ-2482','22-apr-2005',1230,'22-apr-2005',1540,235.98);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('WN-434','22-apr-2005',1540,'22-apr-2005',1700,225.10);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('B6-474','22-apr-2005',1710,'22-apr-2005',2120,261.56);

1 row created.

SQL> INSERT INTO fl\_schedule VALUES ('A5-3246','22-apr-2005',1810,'22-apr-2005',1900,202.45);

1 row created.

SQL> INSERT INTO fl\_schedule values('AF-12','22-apr-05',1245,'22-apr-05',1850,450.25);

1 row created.

SQL>

SQL> --\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*END OF INSERT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SQL>

SQL>

SQL>

SQL> REM:--------------------------------------------------

> REM:CREATION OF TRIGGES...

SQL> REM:--------------------------------------------------

>

SQL> REM:1)The date of arrival should be always later than or on the same date of departure.

SQL>

SQL> CREATE OR REPLACE TRIGGER ARRIVAL\_TRIGGER

2 BEFORE INSERT OR UPDATE ON fl\_schedule

3 for each row

4 when(new.departs > new.arrives)

5 begin

6 RAISE\_APPLICATION\_ERROR( -20001,'The date of arrival should be always later than or on the same date of departure.');

7 end;

8 /

Trigger created.

SQL>

SQL> REM:TESTING TRIGGERS....

SQL>

SQL> REM:successful insert..

SQL> INSERT INTO fl\_schedule VALUES ('9E-3851','17-apr-2005',0710,'19-apr-2005',0800,120.40);

1 row created.

SQL> select \* from fl\_schedule where flno = '9E-3851';

FLNO DEPARTS DTIME ARRIVES ATIME PRICE

------- --------- ---------- --------- ---------- ----------

9E-3851 12-APR-05 710 12-APR-05 800 120.4

9E-3851 15-APR-05 1035 15-APR-05 1140 120.4

9E-3851 17-APR-05 710 19-APR-05 800 120.4

SQL>

SQL> REM:successful update..

SQL> UPDATE fl\_schedule set departs = '10-apr-05' where flno = 'JJ-7456' and departs='12-apr-2005';

1 row updated.

SQL> select \* from fl\_schedule where flno = 'JJ-7456' and departs ='10-apr-05' ;

FLNO DEPARTS DTIME ARRIVES ATIME PRICE

------- --------- ---------- --------- ---------- ----------

JJ-7456 10-APR-05 930 12-APR-05 1240 235.98

SQL>

SQL> REM:failed insert...

SQL> INSERT INTO fl\_schedule VALUES ('QF-3045','15-apr-2005',1320,'12-apr-2005',1440,227.60);

INSERT INTO fl\_schedule VALUES ('QF-3045','15-apr-2005',1320,'12-apr-2005',1440,227.60)

\*

ERROR at line 1:

ORA-20001: The date of arrival should be always later than or on the same date

of departure.

ORA-06512: at "SYSTEM.ARRIVAL\_TRIGGER", line 2

ORA-04088: error during execution of trigger 'SYSTEM.ARRIVAL\_TRIGGER'

SQL>

SQL> REM:failed update..

SQL> UPDATE fl\_schedule set departs = '23-apr-05' where flno = 'G7-3664';

UPDATE fl\_schedule set departs = '23-apr-05' where flno = 'G7-3664'

\*

ERROR at line 1:

ORA-20001: The date of arrival should be always later than or on the same date

of departure.

ORA-06512: at "SYSTEM.ARRIVAL\_TRIGGER", line 2

ORA-04088: error during execution of trigger 'SYSTEM.ARRIVAL\_TRIGGER'

SQL>

SQL> REM:--------------------------------------------------------------------

>

SQL> REM : Flight number CX7520 is scheduled only on Tuesday, Friday and Sunday.

SQL> CREATE OR REPLACE TRIGGER flightcx

2 BEFORE INSERT OR UPDATE ON fl\_schedule

3 for each row

4 declare

5 week\_ind int;

6 begin

7 if(:new.flno = 'CX-7520')

8 then

9 week\_ind:=to\_char(:new.departs,'d');

10 if (week\_ind not in (1,4,6))

11 then

12 raise\_application\_error(num=>-20008,msg=>'Flight number CX-7520 is scheduled only on Tuesday, Friday and Sunday.');

13 end if;

14 end if;

15 end;

16 /

Trigger created.

SQL>

SQL> REM:TESTING TRIGGERS....

SQL>

SQL> REM:successful insert

SQL> INSERT INTO fl\_schedule values('CX-7520','24-apr-05',1230,'27-apr-05',1450,220.25);

1 row created.

SQL> select \* from fl\_schedule where flno = 'CX-7520';

FLNO DEPARTS DTIME ARRIVES ATIME PRICE

------- --------- ---------- --------- ---------- ----------

CX-7520 12-APR-05 730 12-APR-05 840 225.43

CX-7520 17-APR-05 730 17-APR-05 840 225.43

CX-7520 22-APR-05 730 22-APR-05 840 225.43

CX-7520 24-APR-05 1230 27-APR-05 1450 220.25

SQL>

SQL> REM:successful update..

SQL> update fl\_schedule set departs='10-APR-05' where flno = 'CX-7520' and departs = '12-APR-05';

1 row updated.

SQL> select \* from fl\_schedule where flno = 'CX-7520' and departs = '12-APR-05';

no rows selected

SQL>

SQL> REM:failed insert..

SQL> INSERT INTO fl\_schedule values('CX-7520','23-apr-05',1230,'27-apr-05',1450,220.25);

INSERT INTO fl\_schedule values('CX-7520','23-apr-05',1230,'27-apr-05',1450,220.25)

\*

ERROR at line 1:

ORA-20008: Flight number CX-7520 is scheduled only on Tuesday, Friday and

Sunday.

ORA-06512: at "SYSTEM.FLIGHTCX", line 9

ORA-04088: error during execution of trigger 'SYSTEM.FLIGHTCX'

SQL> select \* from fl\_schedule where flno = 'CX-7520';

FLNO DEPARTS DTIME ARRIVES ATIME PRICE

------- --------- ---------- --------- ---------- ----------

CX-7520 10-APR-05 730 12-APR-05 840 225.43

CX-7520 17-APR-05 730 17-APR-05 840 225.43

CX-7520 22-APR-05 730 22-APR-05 840 225.43

CX-7520 24-APR-05 1230 27-APR-05 1450 220.25

SQL>

SQL> REM:failed update..

SQL> update fl\_schedule set departs='15-APR-05' where flno = 'CX-7520' and departs = '12-APR-05';

0 rows updated.

SQL>

SQL> REM:--------------------------------------------------------------------

>

SQL>

SQL> REM : 3

SQL> REM : An aircraft is assigned to a flight only if its cruising range is more than the distance of the flights route.

SQL> CREATE OR REPLACE TRIGGER aircraft\_assign

2 BEFORE INSERT OR UPDATE ON flights

3 for each row

4 declare

5 cruising\_range aircraft.cruisingrange%type;

6 distance\_route routes.distance%type;

7 cursor c1 is select cruisingrange from aircraft where aid = :new.aid;

8 cursor c2 is select distance from routes where routeID = :new.rID;

9 begin

10 open c1;

11 open c2;

12 fetch c1 into cruising\_range;

13 fetch c2 into distance\_route;

14 if(cruising\_range < distance\_route)

15 then

16 raise\_application\_error(num=>-20004,msg=>'Cruishing range is less than distance so flight cannot be assigned');

17 end if;

18 close c1;

19 close c2;

20 end;

21 /

Trigger created.

SQL>

SQL> REM:TESTING TRIGGERS....

SQL>

SQL> REM:successful insert..

SQL> insert into flights values('AM-7878','LW100',2);

1 row created.

SQL> select \* from flights where flightNO = 'AM-7878';

FLIGHTN RID AID

------- ------ ----------

AM-7878 LW100 2

SQL>

SQL> REM:successful update..

SQL> update flights set aid = 5 where flightNo = '9E-3749';

1 row updated.

SQL> select \* from flights where flightNO = '9E-3749';

FLIGHTN RID AID

------- ------ ----------

9E-3749 DM251 5

SQL>

SQL> REM:failed insert...

SQL> insert into flights values('AM-7878','LW100',16);

insert into flights values('AM-7878','LW100',16)

\*

ERROR at line 1:

ORA-20004: Cruishing range is less than distance so flight cannot be assigned

ORA-06512: at "SYSTEM.AIRCRAFT\_ASSIGN", line 13

ORA-04088: error during execution of trigger 'SYSTEM.AIRCRAFT\_ASSIGN'

SQL> spool off