```
SQL> connect system
Enter password:
Connected.
SQL> CREATE TABLE Donor(
  2  DID char(10) PRIMARY KEY,
  3  blood_type CHAR(3) NOT NULL,
  4  DOB DATE,
  5  Fname VARCHAR2(20),
  6  Mname VARCHAR2(20),
  7  Lname VARCHAR2(20));

Table created.

SQL> insert into Donor(DID,blood_type,Fname,Mname,Lname)
  2  values('1122334455','A+','MAHA' , 'AZIZ' , 'alrumaih');

1 row created.

SQL>
SQL> insert into Donor(DID, blood_type,DOB ,Fname,Mname,Lname)
  2  values('2233445566','B+', NULL ,'AMAL' , 'AHMED' , 'ALMUTAIRI');

1 row created.

SQL>
SQL> insert into Donor(DID, blood_type,DOB ,Fname,Mname,Lname)
  2  values('3344556677','O+',NULL,'MOHAMMED' , 'AHMED' , 'ASSAF');

1 row created.

SQL> CREATE TABLE DphoneNumber(
  2  DID CHAR(10),
  3  phone_number number(10) NOT NULL,
  4  PRIMARY KEY (DID, phone_number),
  5  CONSTRAINT DPHON_FK FOREIGN KEY (DID) REFERENCES Donor(DID));

Table created.

SQL> insert into DphoneNumber values('1122334455', 0509992204);

1 row created.

SQL> insert into DphoneNumber values('2233445566', 0554266233);

1 row created.

SQL> insert into DphoneNumber values('3344556677', 0579642133);

1 row created.
```

```
1 row created.

SQL> CREATE TABLE DonationCenter(
  2  building_no number(10) PRIMARY KEY,
  3  order_no number(10) NOT NULL);

Table created.

SQL> insert into DonationCenter values( 245 , 20);

1 row created.

SQL> insert into DonationCenter values( 200 , 35);

1 row created.

SQL> insert into DonationCenter values( 145 , 45);

1 row created.

SQL> CREATE TABLE Blood(
  2  blood_type CHAR(3) PRIMARY KEY,
  3  blood_quantity number(10) NOT NULL,
  4  building_no number(10),
  5  CONSTRAINT Blood_FK FOREIGN KEY(building_no) REFERENCES  DonationCenter(building_no));

Table created.

SQL> insert into Blood values('A+', 15 ,245);

1 row created.

SQL> insert into Blood values('B+', 35 ,245);

1 row created.

SQL> insert into Blood values('O+', 55 ,245);

1 row created.

SQL> CREATE TABLE Donate(
  2  blood_type CHAR(3),
  3  DID CHAR(10),
  4  PRIMARY KEY (blood_type, DID),
  5  CONSTRAINT FK_BLOOD FOREIGN KEY (blood_type) REFERENCES Blood(blood_type),
  6  CONSTRAINT FK_DONOR FOREIGN KEY (DID) REFERENCES Donor(DID));

Table created.

SQL> insert into Donate values('A+','1122334455');
```

```
SQL> insert into DphoneNumber values('3344556677', 0579642133);

1 row created.

SQL> CREATE TABLE DonationCenter(
  2  building_no number(10) PRIMARY KEY,
  3  order_no number(10) NOT NULL);

Table created.

SQL> insert into DonationCenter values( 245 , 20);

1 row created.

SQL> insert into DonationCenter values( 200 , 35);

1 row created.

SQL> insert into DonationCenter values( 145 , 45);

1 row created.

SQL> CREATE TABLE Blood(
  2  blood_type CHAR(3) PRIMARY KEY,
  3  blood_quantity number(10) NOT NULL,
  4  building_no number(10),
  5  CONSTRAINT Blood_FK FOREIGN KEY(building_no) REFERENCES  DonationCenter(building_no));

Table created.

SQL> insert into Blood values('A+', 15 ,245);

1 row created.

SQL> insert into Blood values('B+', 35 ,245);

1 row created.

SQL> insert into Blood values('O+', 55 ,245);

1 row created.

SQL> CREATE TABLE Donate(
  2  blood_type CHAR(3),
  3  DID CHAR(10),
  4  PRIMARY KEY (blood_type, DID),
  5  CONSTRAINT FK_BLOOD FOREIGN KEY (blood_type) REFERENCES Blood(blood_type),
  6  CONSTRAINT FK_DONOR FOREIGN KEY (DID) REFERENCES Donor(DID));
```

```
  6  CONSTRAINT FK_DONOR FOREIGN KEY (DID) REFERENCES Donor(DID));

Table created.

SQL> insert into Donate values('A+','1122334455');

1 row created.

SQL> insert into Donate values('B+','2233445566');

1 row created.

SQL> insert into Donate values('O+','3344556677');

1 row created.

SQL> CREATE TABLE doctor(
  2  SSN CHAR(8) PRIMARY KEY,
  3  name VARCHAR(50) NOT NULL,
  4  department VARCHAR(80) NOT NULL,
  5  building_no number(10),
  6  CONSTRAINT FK_DOCENTER FOREIGN KEY(building_no) REFERENCES DonationCenter(building_no));

Table created.

SQL> insert into doctor values('12345678','Ahmed mohammed salmah','Dental clinic',245);

1 row created.

SQL> insert into doctor values('23456789','HANI ALLA','Dental clinic',245);

1 row created.

SQL> insert into doctor values('34567890','SALMA RASHID','Dental clinic',200);

1 row created.

SQL> CREATE TABLE patient(
  2  PID CHAR(8) PRIMARY KEY,
  3  name VARCHAR(50) NOT NULL,
  4  blood_type CHAR(3) NOT NULL,
  5  DOB DATE);

Table created.

SQL> insert into patient values('55555555','MAHMMOD SAEED','A+', NULL);

1 row created.

SQL> insert into patient values('66666666','JAMAL AHMED','B+', NULL);
```

```
SQL> insert into patient values('66666666','JAMAL AHMED','B+', NULL);

1 row created.

SQL> insert into patient values('77777777','AHMED SAPAH','AB+', NULL);

1 row created.

SQL> CREATE TABLE pphoneNumber(
  2  PID CHAR(8),
  3  Phone_number number(10),
  4  PRIMARY KEY (PID, Phone_number),
  5  CONSTRAINT FK_PH_PATIENT FOREIGN KEY (PID) REFERENCES patient(PID));

Table created.

SQL> insert into pphoneNumber values('55555555',0456321587);

1 row created.

SQL> insert into pphoneNumber values('66666666',0542136789);

1 row created.

SQL> insert into pphoneNumber values('77777777',0574123496);

1 row created.

SQL> CREATE TABLE Treats(
  2  SSN CHAR(8),
  3  PID CHAR(8),
  4  PRIMARY KEY (SSN, PID),
  5  CONSTRAINT FK_TRE_DOC FOREIGN KEY (SSN) REFERENCES doctor(SSN),
  6  CONSTRAINT FK_TRE_PATIENT FOREIGN KEY (PID) REFERENCES patient(PID));

Table created.

SQL> insert into Treats values('12345678','55555555');

1 row created.

SQL> insert into Treats values('23456789','66666666');

1 row created.

SQL> insert into Treats values('34567890','77777777');

1 row created.

SQL> CREATE TABLE need(
```

```
SQL> insert into Treats values('23456789','66666666');

1 row created.

SQL> insert into Treats values('34567890','77777777');

1 row created.

SQL> CREATE TABLE need(
  2  PID CHAR(8),
  3  blood_type CHAR(3),
  4  PRIMARY KEY (PID, blood_type),
  5  CONSTRAINT FK_PID FOREIGN KEY(PID) REFERENCES patient(PID),
  6  CONSTRAINT FK_needBlood FOREIGN KEY(blood_type) REFERENCES Blood(blood_type));

Table created.

SQL> insert into need values('55555555','A+');

1 row created.

SQL> insert into need values('66666666','B+');

1 row created.

SQL> insert into need values('77777777','O+');

1 row created.
```

```
SQL> select *
  2  from donor
  3  where Fname like 'M%'
  4  order by Fname;

DID        BLO DOB      FNAME                MNAME
---------- --- -------- -------------------- --------------------
LNAME
--------------------
1122334455 A+           MAHA                 AZIZ
alrumaih

3344556677 O+           MOHAMMED             AHMED
ASSAF


SQL> UPDATE DphoneNumber
  2  set phone_number=0520441569
  3  WHERE DID='1122334455';

1 row updated.

SQL> DELETE
  2  from DphoneNumber
  3  WHERE
  4  phone_number=0509992204;

0 rows deleted.

SQL> delete from treats
  2  where SSN = '12345678';

1 row deleted.

SQL> SELECT order_no
  2  FROM DonationCenter
  3  GROUP by order_no;

 ORDER_NO
----------
        20
        35
        45
```

```
SQL> select blood_type ,max(blood_quantity)
  2  from blood
  3  group by blood_type
  4  having max(blood_quantity)>30;

BLO MAX(BLOOD_QUANTITY)
--- -------------------
O+                   55
B+                   35

SQL>

SQL> SELECT COUNT(order_no)
  2  FROM DonationCenter;

COUNT(ORDER_NO)
---------------
              3
```

```
SQL> SELECT *
  2  FROM Donate;

BLO DID
--- ----------
A+  1122334455
B+  2233445566
O+  3344556677

SQL> SELECT *
  2  FROM doctor;

SSN      NAME
-------- ---------------------------------------------
DEPARTMENT
--------------------------------------------------------------------------------
BUILDING_NO
-----------
12345678 Ahmed mohammed salmah
Dental clinic
        245

23456789 HANI ALLA
Dental clinic
        245

SSN      NAME
-------- ---------------------------------------------
DEPARTMENT
--------------------------------------------------------------------------------
BUILDING_NO
-----------
34567890 SALMA RASHID
Dental clinic
        200

SQL> SELECT *
  2  FROM patient;

PID      NAME                                          BLO DOB
-------- --------------------------------------------- --- --------
55555555 MAHMMOD SAEED                                 A+
66666666 JAMAL AHMED                                   B+
77777777 AHMED SAPAH                                   AB+

SQL> SELECT *
  2  FROM pphoneNumber;
```

```
SQL> SELECT *
  2  FROM pphoneNumber;

PID       PHONE_NUMBER
--------- -----------
55555555    456321587
66666666    542136789
77777777    574123496

SQL> SELECT *
  2  FROM Treats;

SSN      PID
-------- --------
23456789 66666666
34567890 77777777

SQL> SELECT *
  2  FROM need;

PID      BLO
-------- ---
55555555 A+
66666666 B+
77777777 O+

SQL>
```