SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

DBMS PROJECT-1

BLOOD BANK MANAGEMENT SYSTEM

SUBMITTED TO

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Date:

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BLOOD BANK MANAGEMENT SYSTEM

ABSTRACT

This project aims to develop a Blood Bank Management System. A Blood Bank Management System can be used in any clinic, hospital, labs or any emergency situation which requires blood units for survival. Our system can be used to find required type of blood in emergency situations from either blood bank or even blood donors.

Current system uses a grapevine communication for finding blood in cases of emergency, may it be by a donor or blood bank. The intentions of proposing such a system is to abolish the panic caused during an emergency due to unavailability of blood.

INTRODUCTION

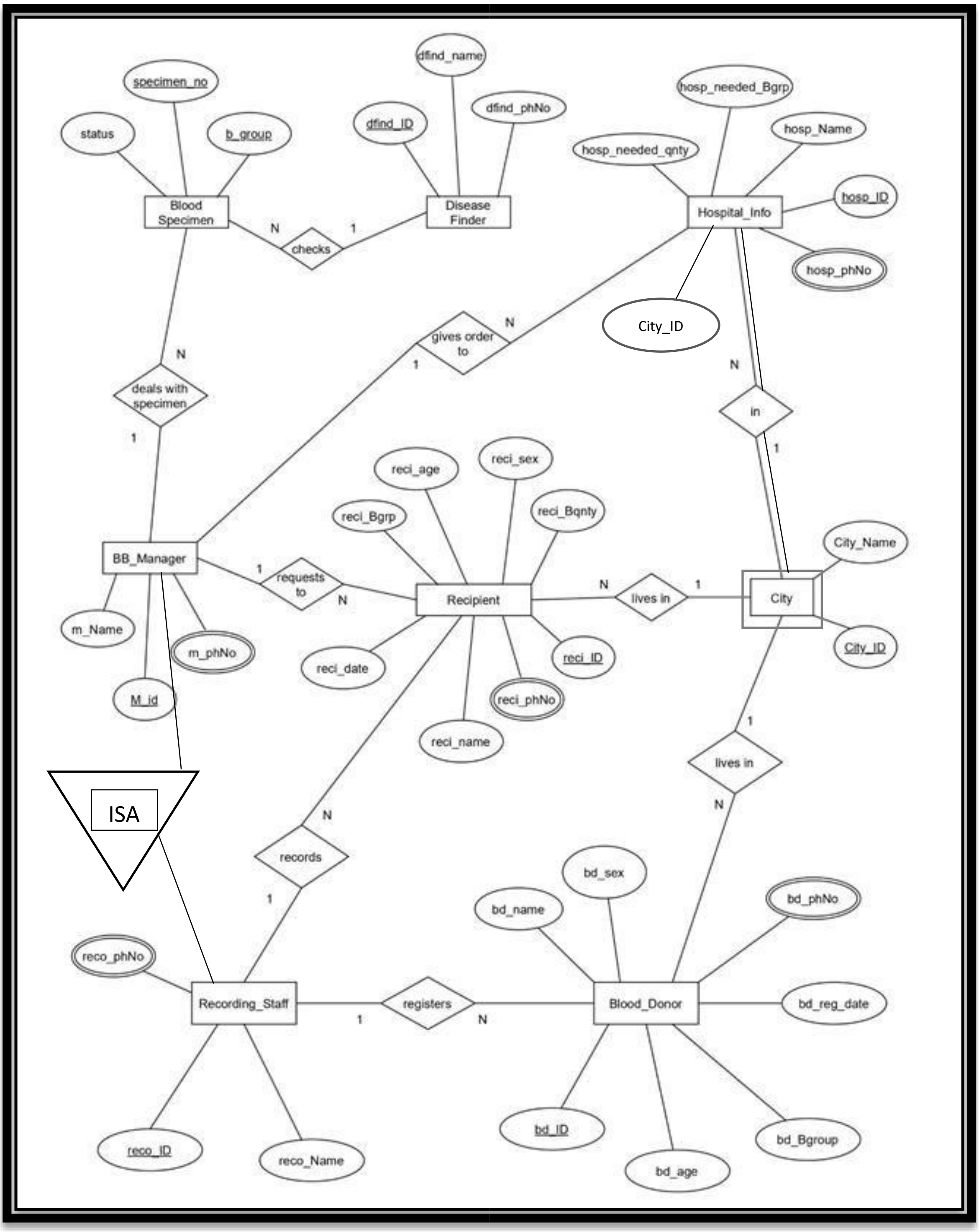
Blood banks collect, store and provide collected blood to the patients who are in need of blood. The people who donate blood are called ‘donors’. The banks then group the blood which they receive according to the blood groups. They also make sure that the blood is not contaminated. The main mission of the blood bank is to provide the blood to the hospitals and health care systems which saves the patient’s life. No hospital can maintain the health care system without pure and adequate blood.

The major concern each blood bank has is to monitor the quality of the blood and monitor the people who donates the blood, that is ‘donors’. But this a tough job. The existing system will not satisfy the need of maintaining quality blood and keep track of donors. To overcome all these limitations we introduced a new system called ‘Blood Donation Management System’.

The ‘Blood Bank Management System’ allows us to keep track of quality of blood and also keeps track of available blood when requested by the acceptor. The existing systems are Manual systems which are time consuming and not so effective. ‘Blood Bank Management system’ automates the distribution of blood. This database consists of thousands of records of each blood bank.

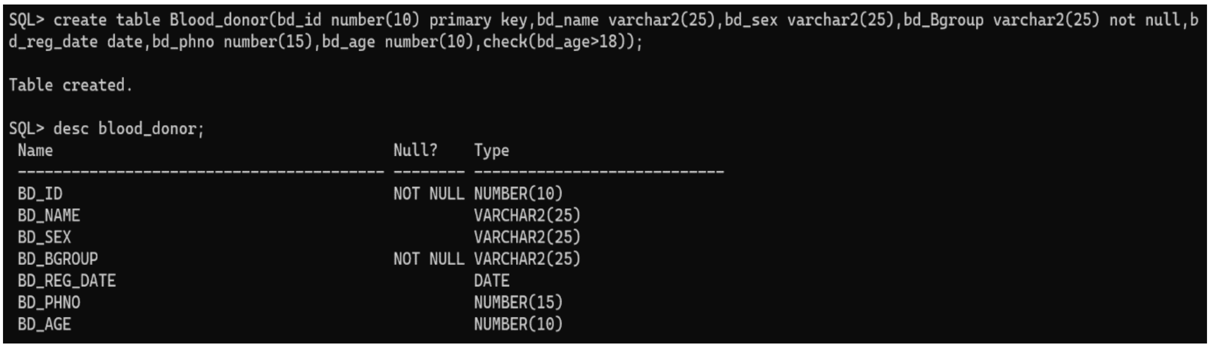
By using this system searching the available blood becomes easy and saves lot of time than the manual system. It will hoard, operate, recover and analyse information concerned with the administrative and inventory management within a blood bank. This system is developed in a manner that it is manageable, time effective, cost effective, flexible and much man power is not required.

ER Diagram:


dfind_name
specimen_no
dfind_phNo
hosp_needed_Bgrp
status
b_group
dfind_ID
hosp_Name
hosp_needed_qnty
hosp_ID
Blood Specimen
Disease Finder
Hospital_Info
N
1
checks
hosp_phNo
City_ID
N
gives order to
1
N
N
in
deals with specimen
1
1
reci_sex
reci_age
reci_Bqnty
reci_Bgrp
City_Name
BB_Manager
1
requests to
N
Recipient
N
lives in
1
City
m_Name
m_phNo
reci_ID
City_ID
reci_date
M_id
reci_phNo
reci_name
1
lives in
ISA
N
N
records
bd_sex
1
bd_phNo
bd_name
reco_phNo
Recording_Staff
registers
Blood_Donor
bd_reg_date
1
N
bd_ID
bd_Bgroup
reco_ID
reco_Name
bd_age

INFORMATION OF ENTITIES:

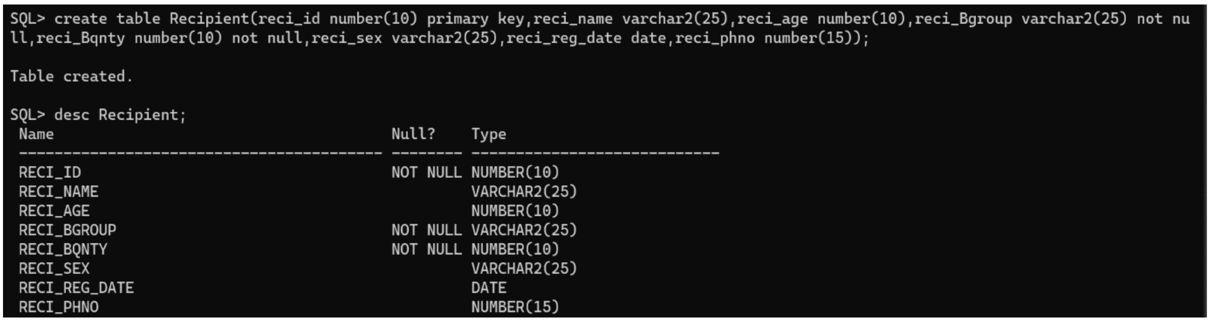
1.Blood_donor:



```
SQL> create table Blood_donor(bd_id number(10) primary key,bd_name varchar2(25),bd_sex varchar2(25),bd_Bgroup varchar2(25) not null,b
d_reg_date date,bd_phno number(15),bd_age number(10),check(bd_age>18));

Table created.

SQL> desc blood_donor;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 BD_ID                                     NOT NULL NUMBER(10)
 BD_NAME                                            VARCHAR2(25)
 BD_SEX                                             VARCHAR2(25)
 BD_BGROUP                                 NOT NULL VARCHAR2(25)
 BD_REG_DATE                                        DATE
 BD_PHNO                                            NUMBER(15)
 BD_AGE                                             NUMBER(10)
```

The donor is the person who donates blood, on donation a donor id (bd_id) is generated and used as primary key to identify the donor information. Other than that name, age , sex , blood group, phone number and registration dates will be stored in database under Blood_donor entity.

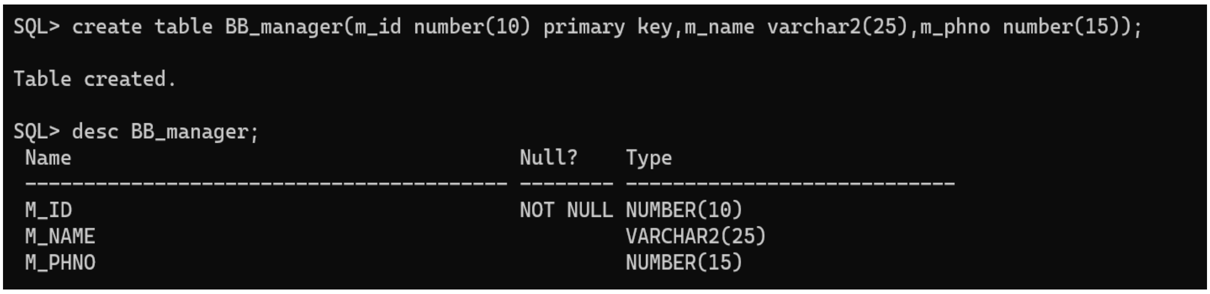
2. Recipient:



```
SQL> create table Recipient(reci_id number(10) primary key,reci_name varchar2(25),reci_age number(10),reci_Bgroup varchar2(25) not nu
ll,reci_Bqnty number(10) not null,reci_sex varchar2(25),reci_reg_date date,reci_phno number(15));

Table created.

SQL> desc Recipient;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 RECI_ID                                   NOT NULL NUMBER(10)
 RECI_NAME                                          VARCHAR2(25)
 RECI_AGE                                           NUMBER(10)
 RECI_BGROUP                               NOT NULL VARCHAR2(25)
 RECI_BQNTY                                NOT NULL NUMBER(10)
 RECI_SEX                                           VARCHAR2(25)
 RECI_REG_DATE                                      DATE
 RECI_PHNO                                          NUMBER(15)
```

The Recipient is the person who receives blood from blood bank, when blood is given to a recipient a recipient ID (reci_id) is generated and used as primary key for the recipient entity to identify blood recipients information. Along with it name, age, sex, blood group (needed), blood quantity(needed), phone number, and registration dates are also stored in the data base under recipient entity.

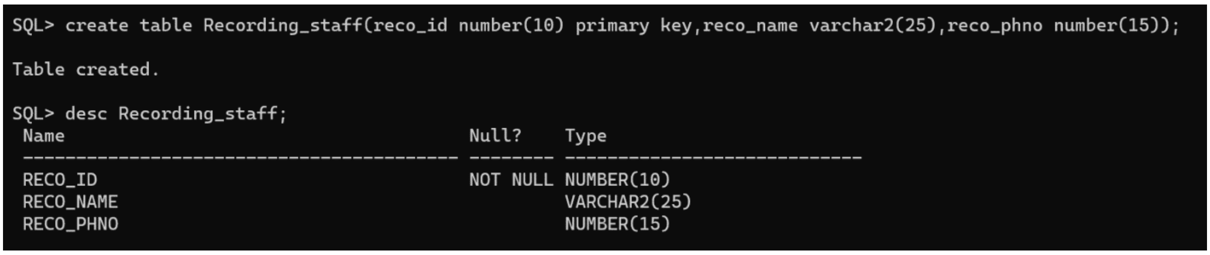
3.BB_manager:



```
SQL> create table BB_manager(m_id number(10) primary key,m_name varchar2(25),m_phno number(15));

Table created.

SQL> desc BB_manager;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 M_ID                                      NOT NULL NUMBER(10)
 M_NAME                                             VARCHAR2(25)
 M_PHNO                                             NUMBER(15)
```

The blood bank manager is the person who takes care of the available blood samples in the blood bank, he is also responsible for handling blood requests from recipients and hospitals. Blood manager has a unique identification number (m_id) used as primary key along with name and phone number of blood bank manager will be stored in data base under BB_manager entity.

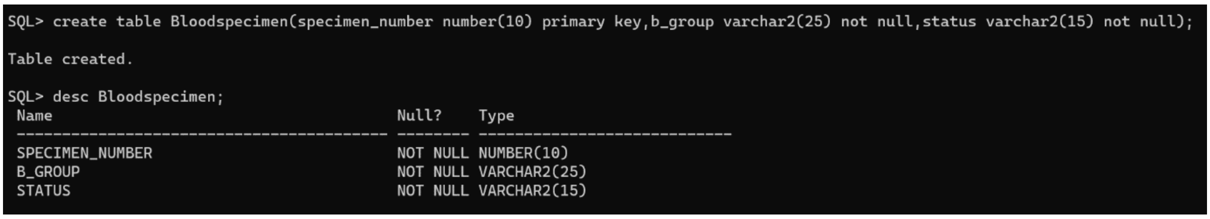
4.Recording_staff:



```
SQL> create table Recording_staff(reco_id number(10) primary key,reco_name varchar2(25),reco_phno number(15));

Table created.

SQL> desc Recording_staff;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 RECO_ID                                   NOT NULL NUMBER(10)
 RECO_NAME                                          VARCHAR2(25)
 RECO_PHNO                                          NUMBER(15)
```

The recording staff is a person who registers the blood donor and recipients and the Recording_staff enitity has reco_id which is primary key along with recorder’s name and recorder’s phone number will also be stored in the data base under Recording_staff entity.

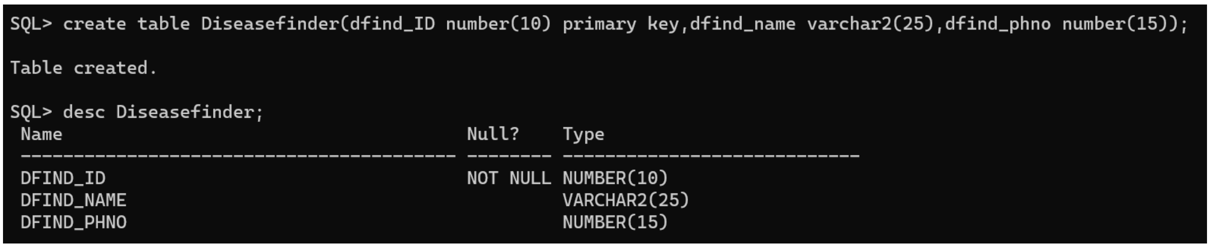
5.Bloodspecimen:



```
SQL> create table Bloodspecimen(specimen_number number(10) primary key,b_group varchar2(25) not null,status varchar2(15) not null);

Table created.

SQL> desc Bloodspecimen;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SPECIMEN_NUMBER                           NOT NULL NUMBER(10)
 B_GROUP                                   NOT NULL VARCHAR2(25)
 STATUS                                    NOT NULL VARCHAR2(15)
```

In data base, under Blood specimen entity we will store the information of blood samples which are available in the blood bank. In this entity specimen_number and b_group together will be primary key along with status attribute which will show if the blood is contaminated on not.

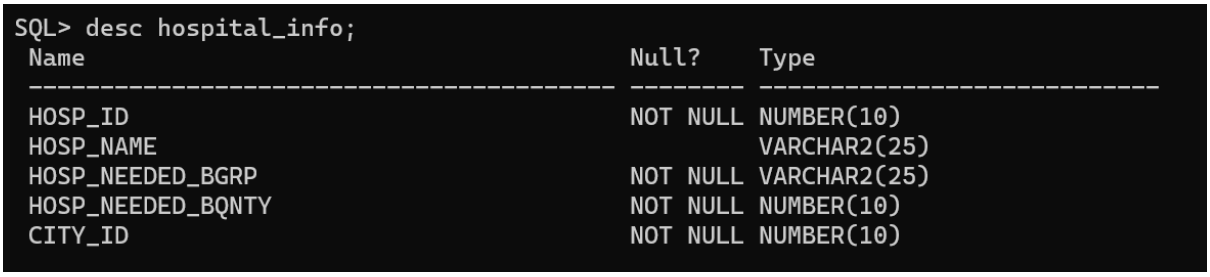
6.Diseasefinder:



```
SQL> create table Diseasefinder(dfind_ID number(10) primary key,dfind_name varchar2(25),dfind_phno number(15));

Table created.

SQL> desc Diseasefinder;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DFIND_ID                                  NOT NULL NUMBER(10)
 DFIND_NAME                                         VARCHAR2(25)
 DFIND_PHNO                                         NUMBER(15)
```

In data base , under Diseasefinder entity we will store the information of the doctor who checks the blood for any kind of contaminations. To store that information we have unique identification number (dfind_ID) as primary key. Along with name and phone number of the doctor will also be stored under same entity.

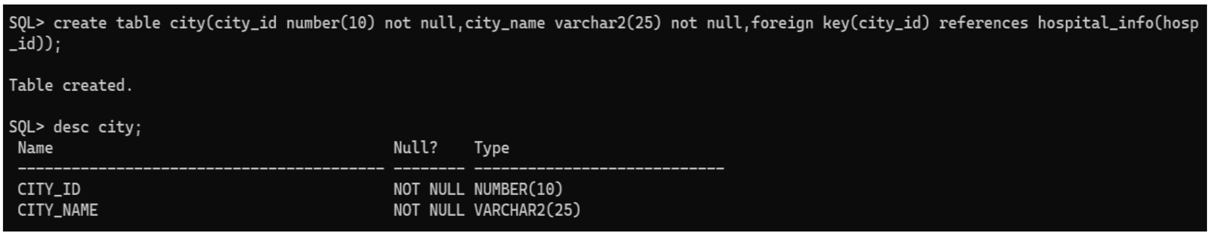
7.hospital_info:



```
SQL> desc hospital_info;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 HOSP_ID                                   NOT NULL NUMBER(10)
 HOSP_NAME                                          VARCHAR2(25)
 HOSP_NEEDED_BGRP                          NOT NULL VARCHAR2(25)
 HOSP_NEEDED_BQNTY                         NOT NULL NUMBER(10)
 CITY_ID                                   NOT NULL NUMBER(10)
```

In the data base, under hospital_info entity we will store the information of hospitals. In this hosp_id and hosp_needed_bgrp together makes the primary key. We will store hospital name and the blood quantity required at the hospital.

8.city:



```
SQL> create table city(city_id number(10) not null,city_name varchar2(25) not null,foreign key(city_id) references hospital_info(hosp
_id));

Table created.

SQL> desc city;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CITY_ID                                   NOT NULL NUMBER(10)
 CITY_NAME                                 NOT NULL VARCHAR2(25)
```

This entity will store the information of cities where donors, recipients and hospitals are present. A unique identification number (city_id) will be used as primary key to identify the information about the city. Along with ID city names will also be stored under this entity.

RELATIONSHIP BETWEEN ENTITIES

1. City and hospital_Info:

Relationship = “in”

Type of relation = 1 to many

Explanation = A city can have many hospital in it. One hospital will belong in one city.

2. City and Blood_donor:

Relationship = “lives in”

Type of relation = 1 to many

Explanation = In a city, many donor can live. One donor will belong to one city.

3. City and Recipient:

Relationship = “lives in”

Type of relation = 1 to many

Explanation = In a city, many recipient can live. One recipient will belong to one city.

4. Recording_staff and Donor:

Relationship = “registers”

Type of relation = 1 to many

Explanation = One recording staff can register many donors. One donor will register with one recording officer.

5. Recording_staff and Recipient:

Relationship = “records”

Type of relation = 1 to many

Explanation = One recording staff can record many recipients. One recipient will be recorded by one recording officer.

6.Hospital_Info and BB_manager:

Relationship = “gives order to”

Type of relation = 1 to many

Explanation = One Blood bank manager can handle and process requests from many hospitals. One hospital will place request to on blood bank manager.

7.BB_manager and Bloodspecimen:

Relationship = “deales with specimen”

Type of relation = 1 to many

Explanation = One Blood bank manager can manage many blood specimen and one specimen will be managed by one manager.

8.Recipient and BB_manager:

Relationship = “requests to”

Type of relation = 1 to many

Explanation = One recipient can request blood to one manager and one manager can handle requests from many recipients.

9.Disease_finder and Bloodspecimen:

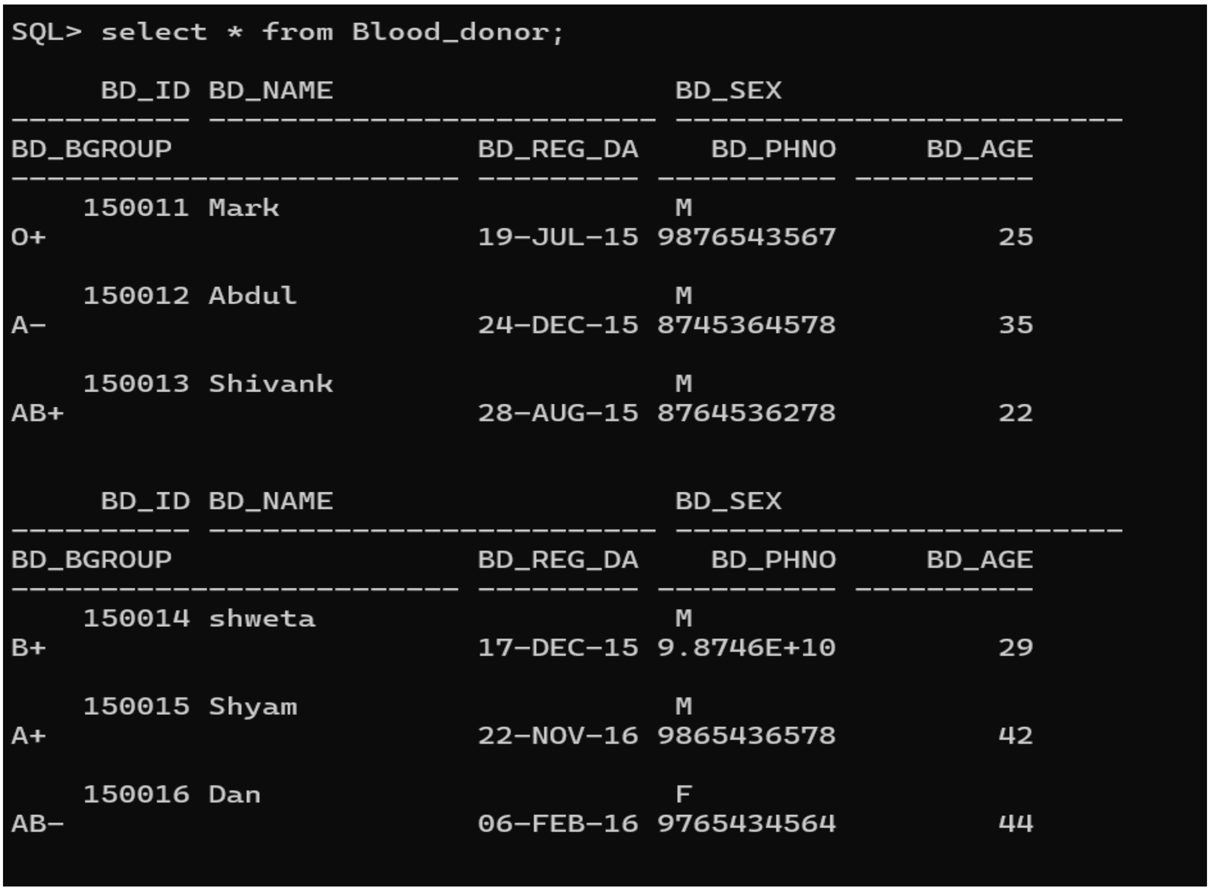
Relationship = “checks”,

Type of relation = 1 to many

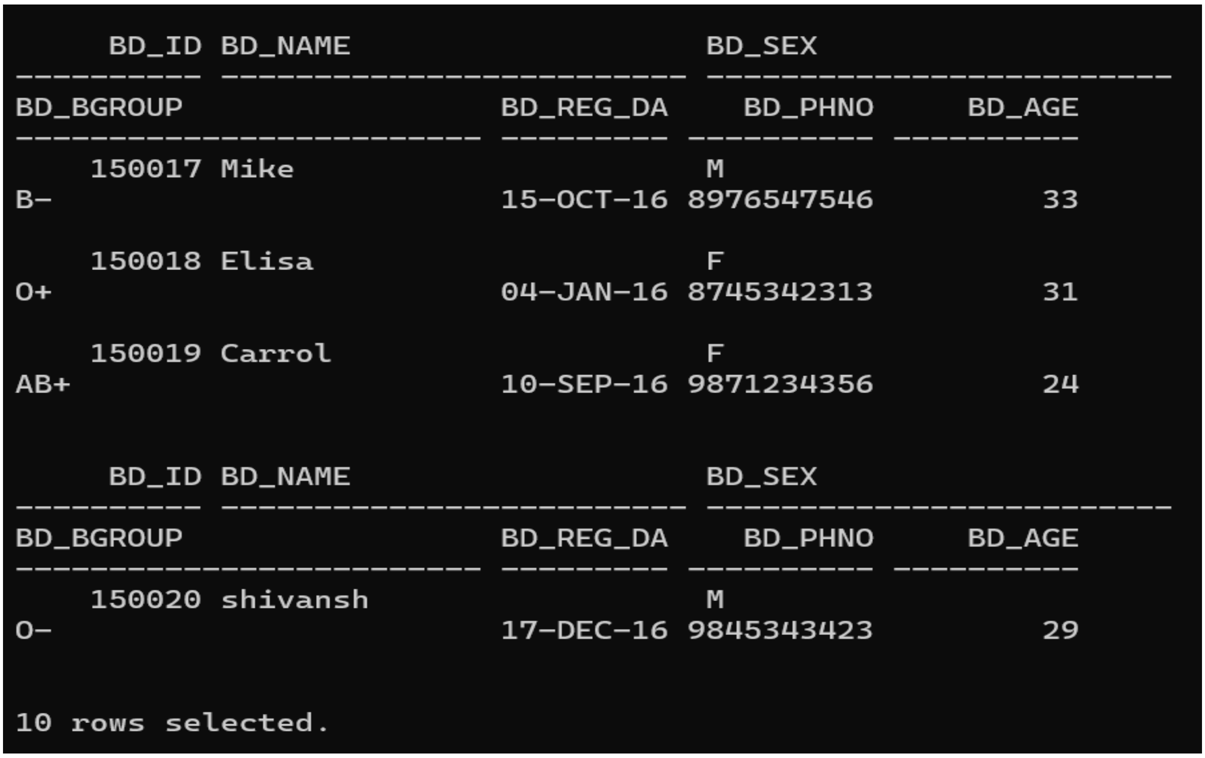
Explanation = A disease finder can check many blood samples. One blood sample is checked by one disease finder.

After inserting values into table

1.Blood_donor:

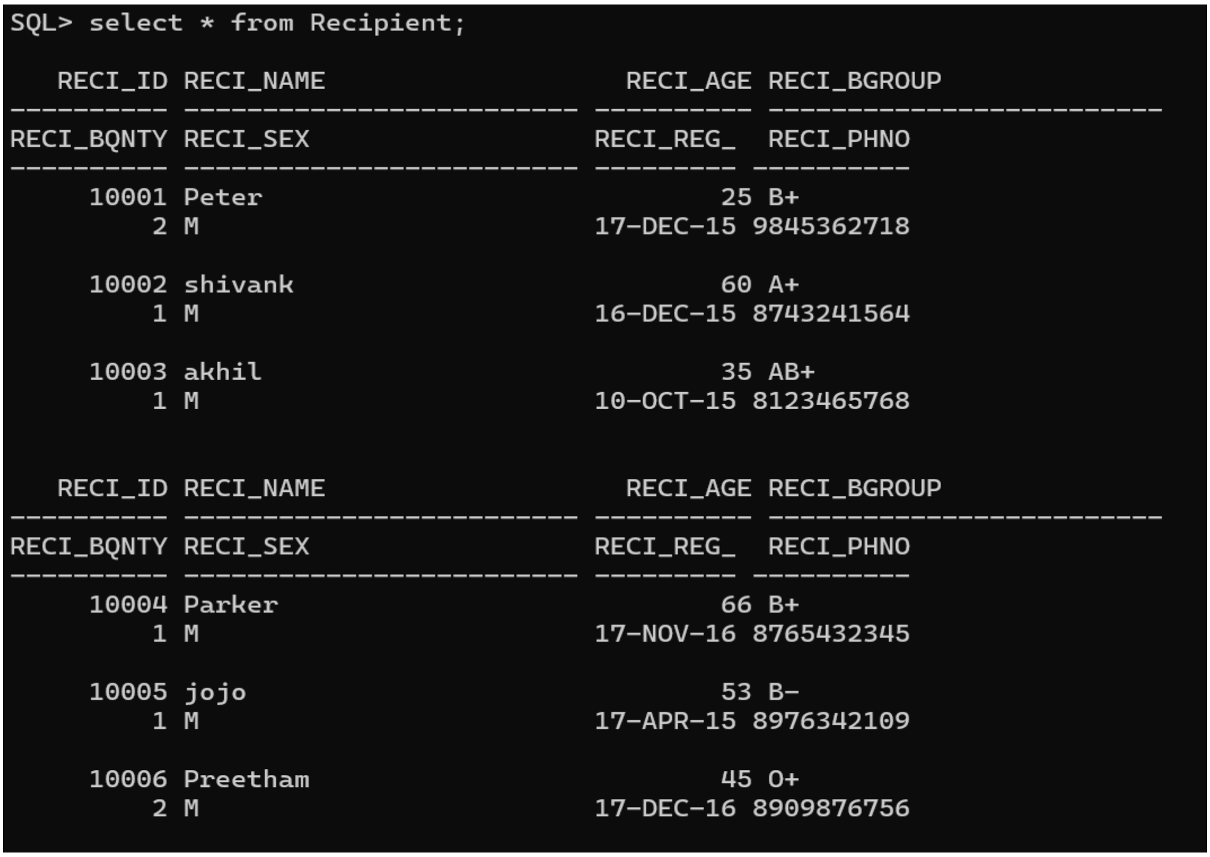


```
SQL> select * from Blood_donor;

     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP                 BD_REG_DA    BD_PHNO     BD_AGE
------------------------- --------- ---------- ----------
    150011 Mark                      M
O+                        19-JUL-15 9876543567         25

    150012 Abdul                     M
A-                        24-DEC-15 8745364578         35

    150013 Shivank                   M
AB+                       28-AUG-15 8764536278         22


     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP                 BD_REG_DA    BD_PHNO     BD_AGE
------------------------- --------- ---------- ----------
    150014 shweta                    M
B+                        17-DEC-15 9.8746E+10         29

    150015 Shyam                     M
A+                        22-NOV-16 9865436578         42

    150016 Dan                       F
AB-                       06-FEB-16 9765434564         44
```

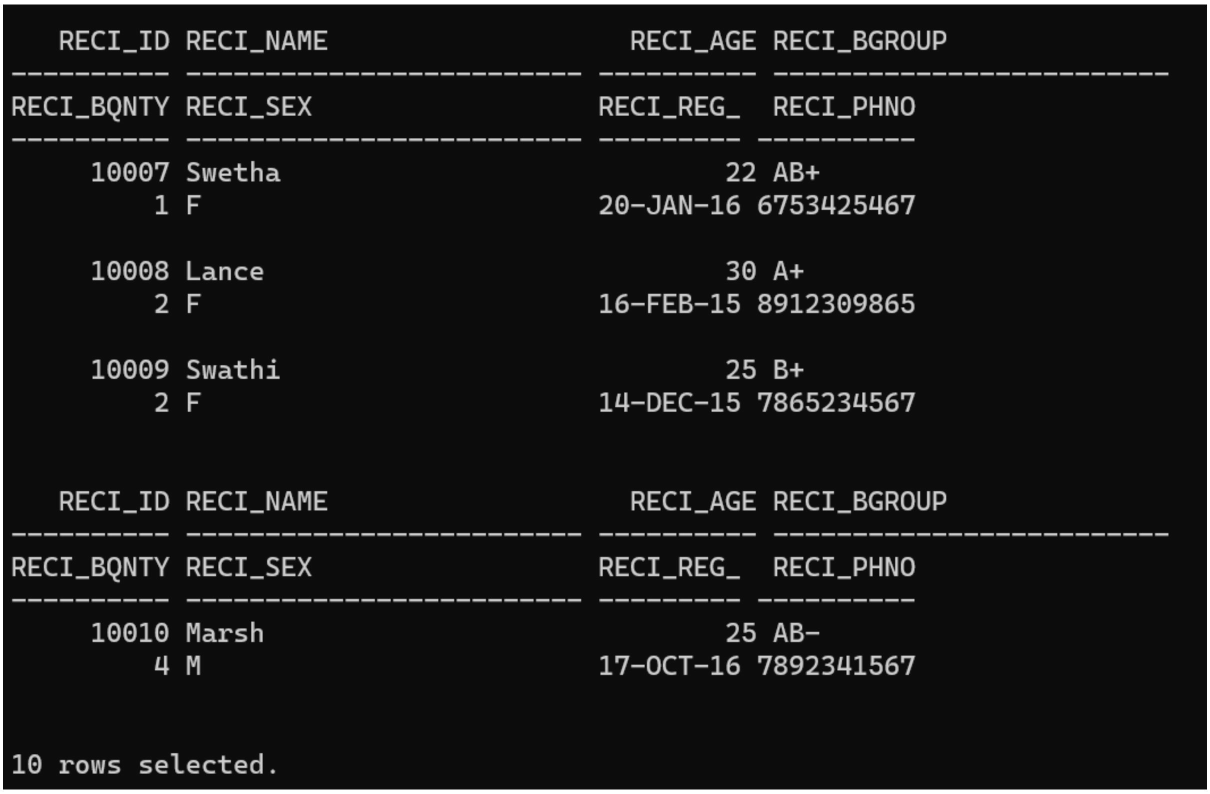


```
     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP                 BD_REG_DA    BD_PHNO     BD_AGE
------------------------- --------- ---------- ----------
    150017 Mike                      M
B-                        15-OCT-16 8976547546         33

    150018 Elisa                     F
O+                        04-JAN-16 8745342313         31

    150019 Carrol                    F
AB+                       10-SEP-16 9871234356         24


     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP                 BD_REG_DA    BD_PHNO     BD_AGE
------------------------- --------- ---------- ----------
    150020 shivansh                  M
O-                        17-DEC-16 9845343423         29


10 rows selected.
```

2. Recipient:

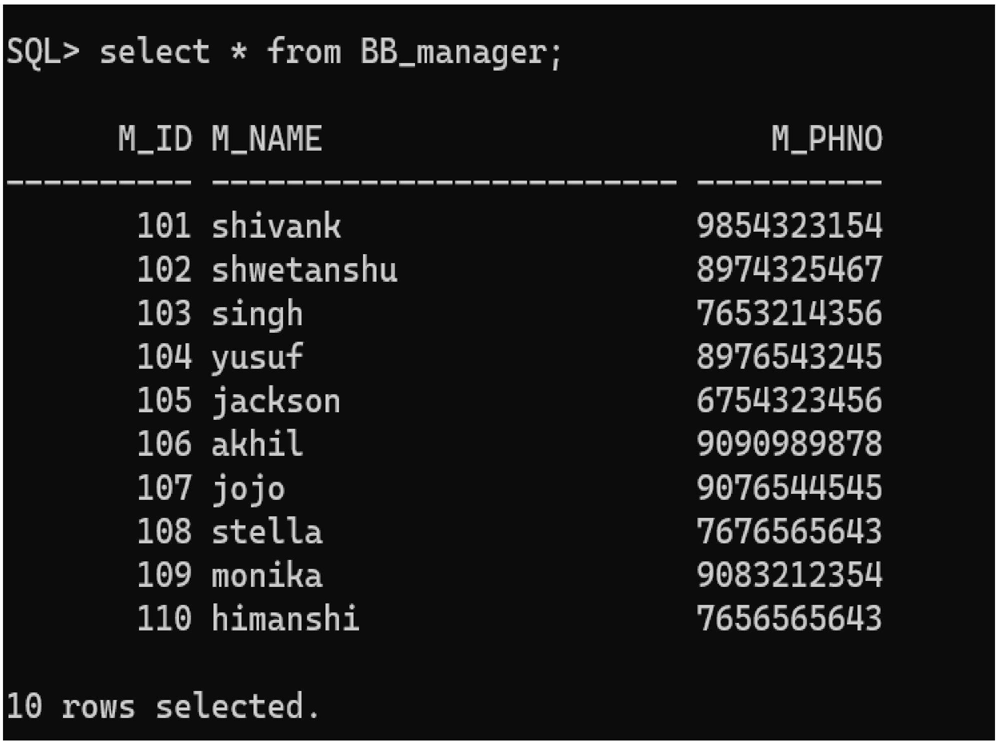


```
SQL> select * from Recipient;

   RECI_ID RECI_NAME                   RECI_AGE RECI_BGROUP
---------- ------------------------- ---------- -------------------------
RECI_BQNTY RECI_SEX                  RECI_REG_  RECI_PHNO
---------- ------------------------- --------- ----------
     10001 Peter                             25 B+
         2 M                         17-DEC-15 9845362718

     10002 shivank                           60 A+
         1 M                         16-DEC-15 8743241564

     10003 akhil                             35 AB+
         1 M                         10-OCT-15 8123465768


   RECI_ID RECI_NAME                   RECI_AGE RECI_BGROUP
---------- ------------------------- ---------- -------------------------
RECI_BQNTY RECI_SEX                  RECI_REG_  RECI_PHNO
---------- ------------------------- --------- ----------
     10004 Parker                            66 B+
         1 M                         17-NOV-16 8765432345

     10005 jojo                              53 B-
         1 M                         17-APR-15 8976342109

     10006 Preetham                          45 O+
         2 M                         17-DEC-16 8909876756
```



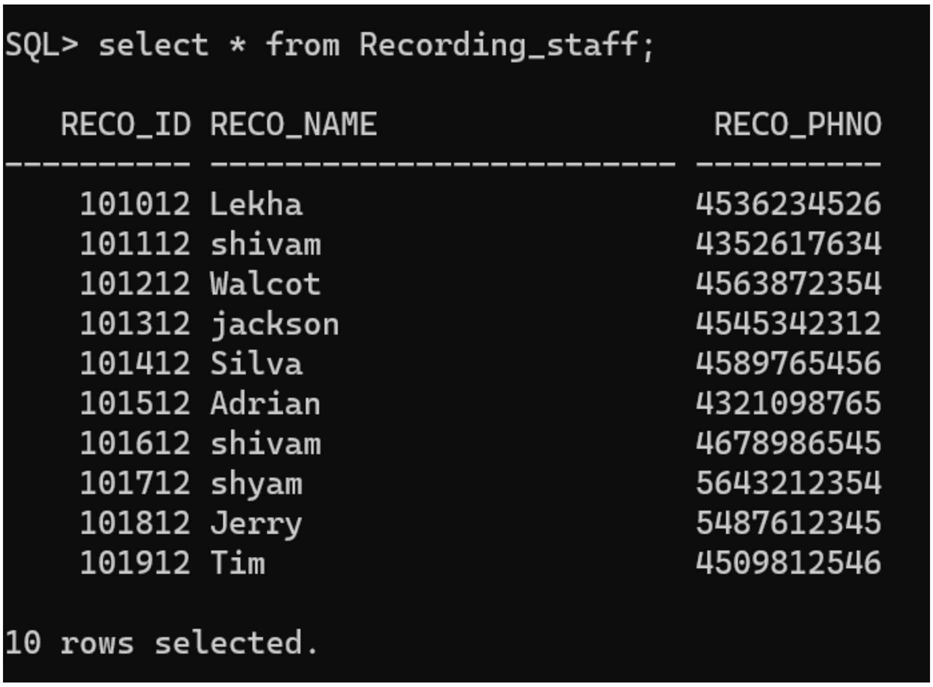
```
   RECI_ID RECI_NAME                   RECI_AGE RECI_BGROUP
---------- ------------------------- ---------- -------------------------
RECI_BQNTY RECI_SEX                  RECI_REG_  RECI_PHNO
---------- ------------------------- --------- ----------
     10007 Swetha                            22 AB+
         1 F                         20-JAN-16 6753425467

     10008 Lance                             30 A+
         2 F                         16-FEB-15 8912309865

     10009 Swathi                            25 B+
         2 F                         14-DEC-15 7865234567


   RECI_ID RECI_NAME                   RECI_AGE RECI_BGROUP
---------- ------------------------- ---------- -------------------------
RECI_BQNTY RECI_SEX                  RECI_REG_  RECI_PHNO
---------- ------------------------- --------- ----------
     10010 Marsh                             25 AB-
         4 M                         17-OCT-16 7892341567


10 rows selected.
```

3.BB_manager:



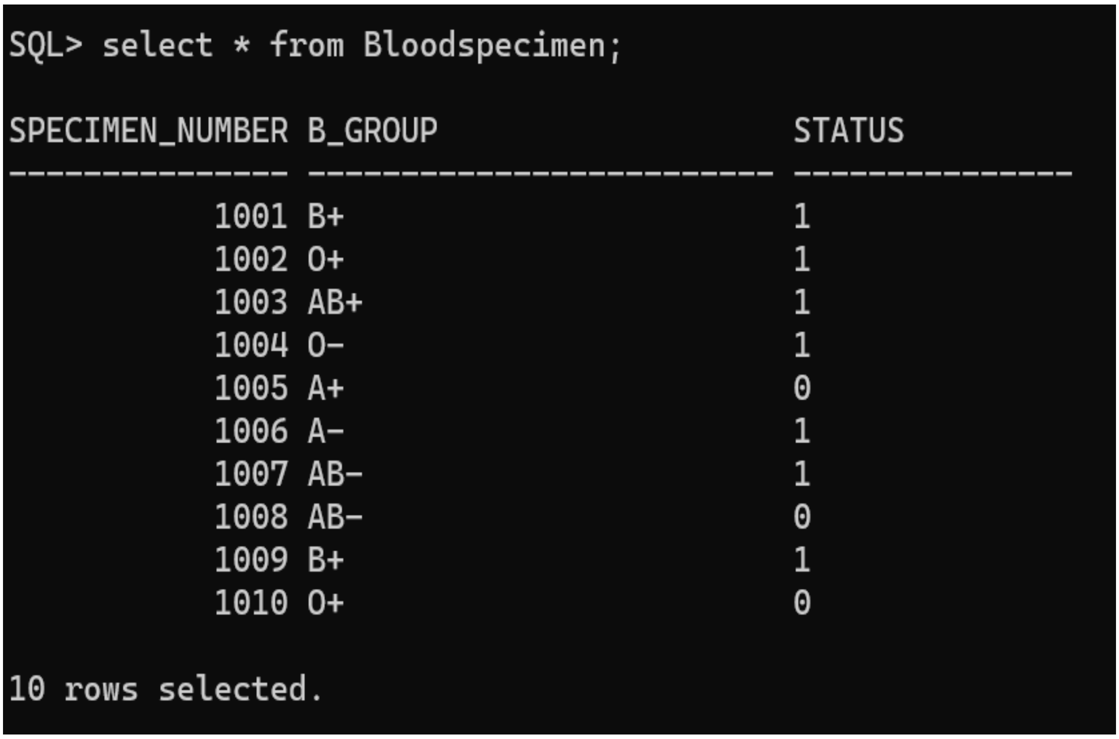
```
SQL> select * from BB_manager;

      M_ID M_NAME                         M_PHNO
---------- ------------------------- ----------
       101 shivank                   9854323154
       102 shwetanshu                8974325467
       103 singh                     7653214356
       104 yusuf                     8976543245
       105 jackson                   6754323456
       106 akhil                     9090989878
       107 jojo                      9076544545
       108 stella                    7676565643
       109 monika                    9083212354
       110 himanshi                  7656565643

10 rows selected.
```

4.Recording_staff:



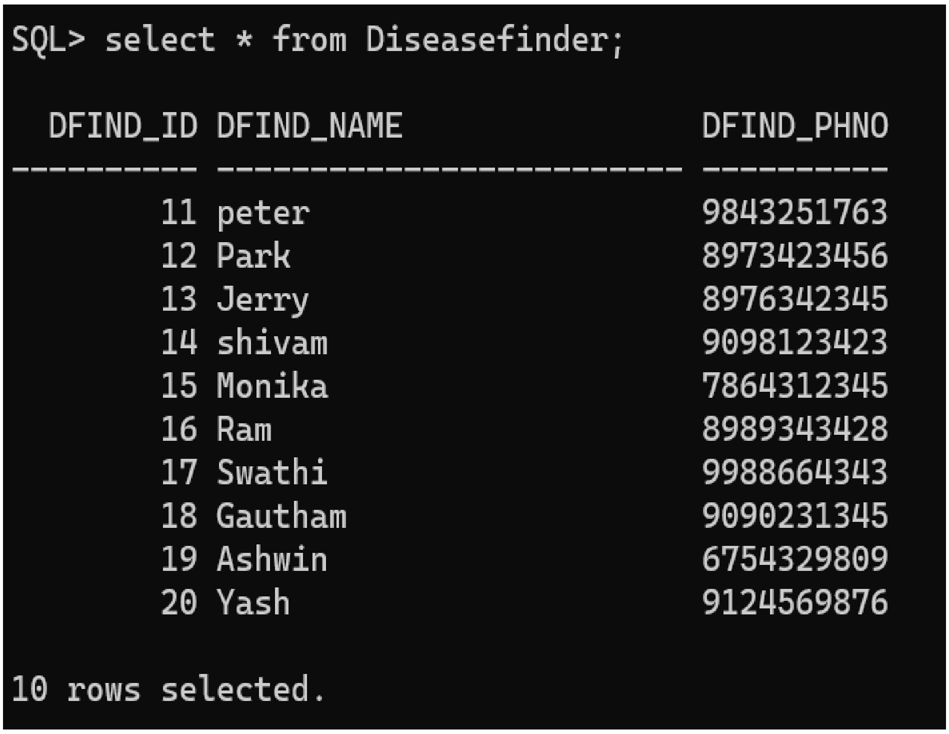
```
SQL> select * from Recording_staff;

   RECO_ID RECO_NAME                  RECO_PHNO
---------- ------------------------- ----------
    101012 Lekha                     4536234526
    101112 shivam                    4352617634
    101212 Walcot                    4563872354
    101312 jackson                   4545342312
    101412 Silva                     4589765456
    101512 Adrian                    4321098765
    101612 shivam                    4678986545
    101712 shyam                     5643212354
    101812 Jerry                     5487612345
    101912 Tim                       4509812546

10 rows selected.
```

5. Bloodspecimen:



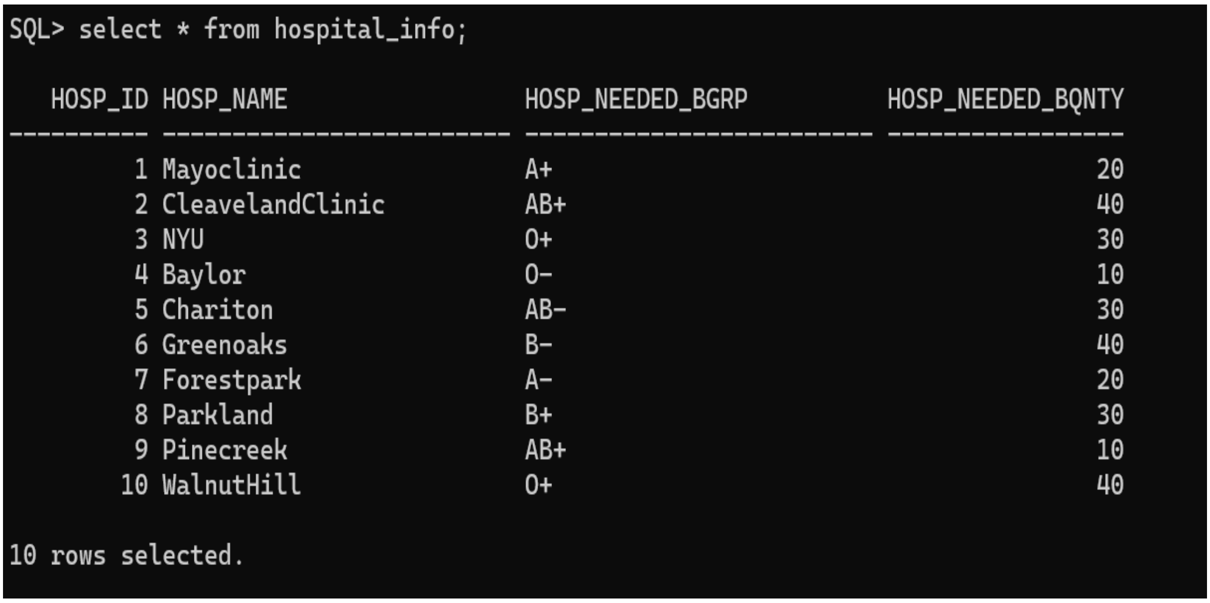
```
SQL> select * from Bloodspecimen;

SPECIMEN_NUMBER B_GROUP                   STATUS
--------------- ------------------------- ---------------
           1001 B+                        1
           1002 O+                        1
           1003 AB+                       1
           1004 O-                        1
           1005 A+                        0
           1006 A-                        1
           1007 AB-                       1
           1008 AB-                       0
           1009 B+                        1
           1010 O+                        0

10 rows selected.
```

6. Diseasefinder:



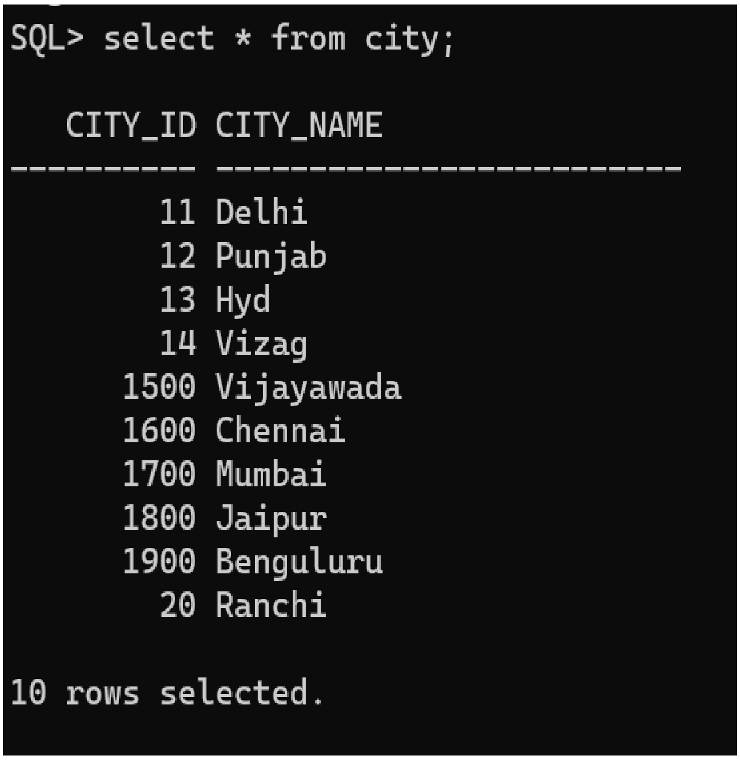
```
SQL> select * from Diseasefinder;

  DFIND_ID DFIND_NAME                DFIND_PHNO
---------- ------------------------- ----------
        11 peter                     9843251763
        12 Park                      8973423456
        13 Jerry                     8976342345
        14 shivam                    9098123423
        15 Monika                    7864312345
        16 Ram                       8989343428
        17 Swathi                    9988664343
        18 Gautham                   9090231345
        19 Ashwin                    6754329809
        20 Yash                      9124569876

10 rows selected.
```

7.hopital_info:



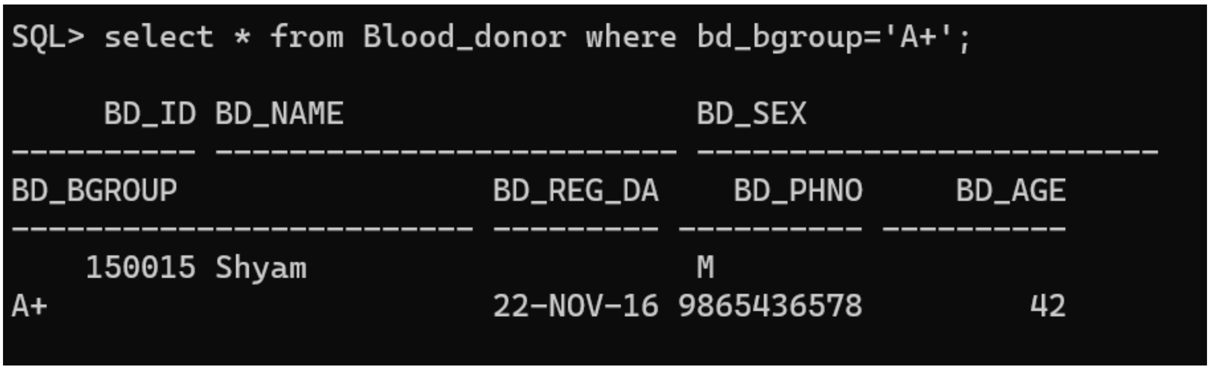
```
SQL> select * from hospital_info;

   HOSP_ID HOSP_NAME                 HOSP_NEEDED_BGRP          HOSP_NEEDED_BQNTY
---------- ------------------------- ------------------------- -----------------
         1 Mayoclinic                A+                                       20
         2 CleavelandClinic          AB+                                      40
         3 NYU                       O+                                       30
         4 Baylor                    O-                                       10
         5 Chariton                  AB-                                      30
         6 Greenoaks                 B-                                       40
         7 Forestpark                A-                                       20
         8 Parkland                  B+                                       30
         9 Pinecreek                 AB+                                      10
        10 WalnutHill                O+                                       40

10 rows selected.
```

8.city:

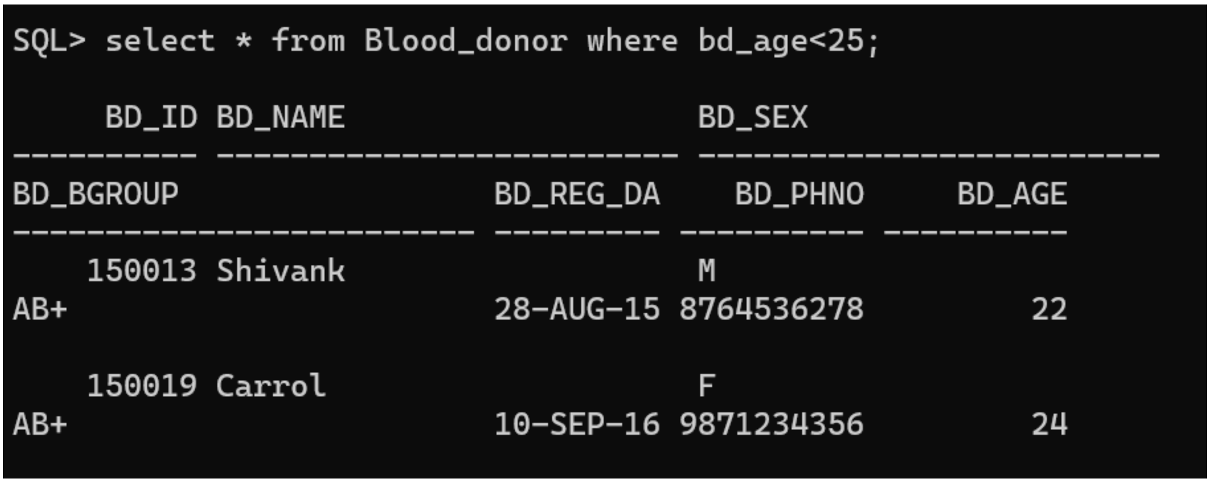


```
SQL> select * from city;

   CITY_ID CITY_NAME
---------- -------------------------
        11 Delhi
        12 Punjab
        13 Hyd
        14 Vizag
      1500 Vijayawada
      1600 Chennai
      1700 Mumbai
      1800 Jaipur
      1900 Benguluru
        20 Ranchi

10 rows selected.
```

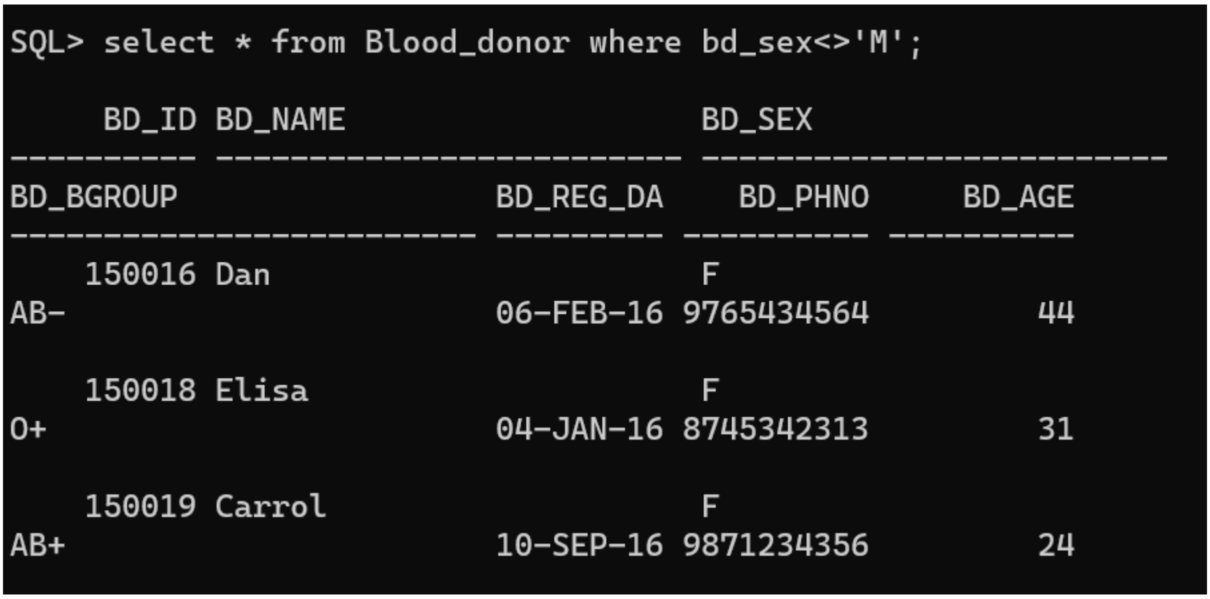
Relational Operators:



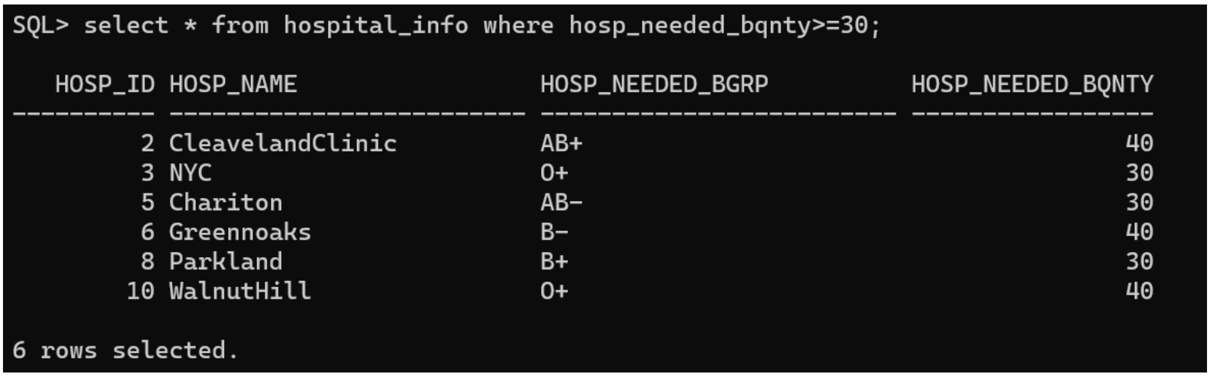
```
SQL> select * from Blood_donor where bd_bgroup='A+';

     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP                 BD_REG_DA    BD_PHNO     BD_AGE
------------------------- --------- ---------- ----------
    150015 Shyam                     M
A+                        22-NOV-16 9865436578         42
```



```
SQL> select * from Blood_donor where bd_age<25;

     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP                 BD_REG_DA    BD_PHNO     BD_AGE
------------------------- --------- ---------- ----------
    150013 Shivank                   M
AB+                       28-AUG-15 8764536278         22

    150019 Carrol                    F
AB+                       10-SEP-16 9871234356         24
```

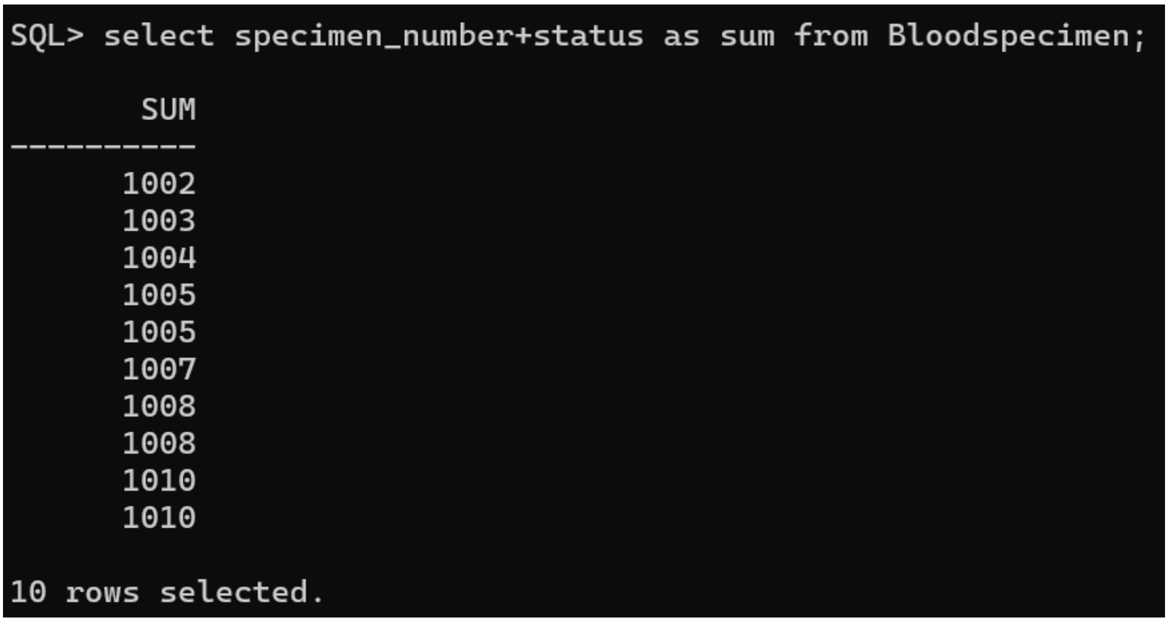


```
SQL> select * from Blood_donor where bd_sex<>'M';

     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP                 BD_REG_DA    BD_PHNO     BD_AGE
------------------------- --------- ---------- ----------
    150016 Dan                       F
AB-                       06-FEB-16 9765434564         44

    150018 Elisa                     F
O+                        04-JAN-16 8745342313         31

    150019 Carrol                    F
AB+                       10-SEP-16 9871234356         24
```

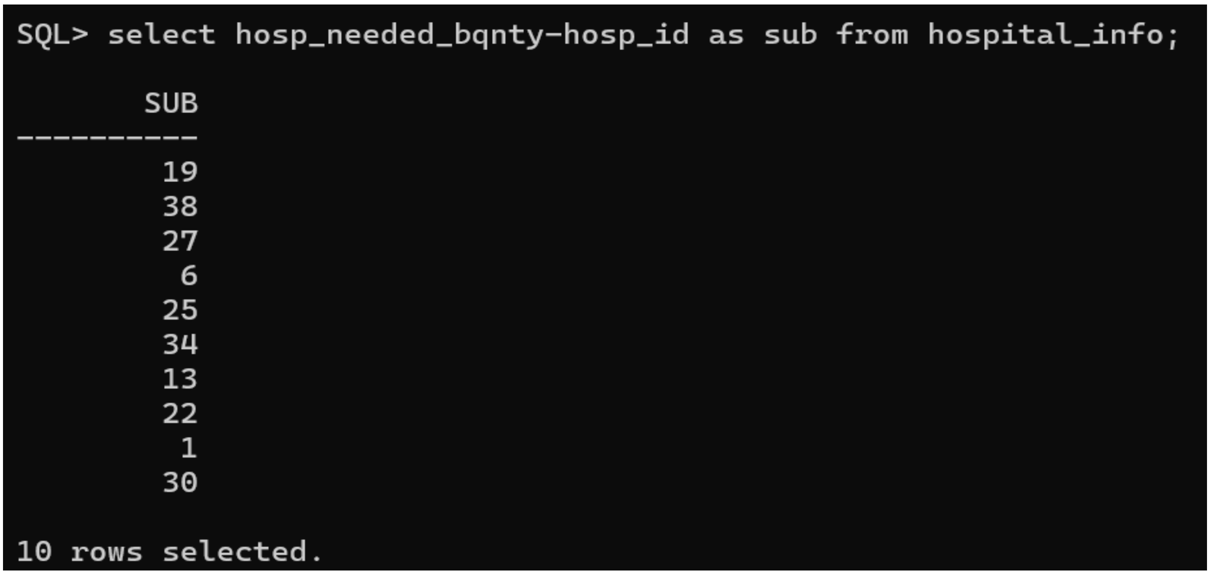


```
SQL> select * from hospital_info where hosp_needed_bqnty>=30;

   HOSP_ID HOSP_NAME                 HOSP_NEEDED_BGRP          HOSP_NEEDED_BQNTY
---------- ------------------------- ------------------------- -----------------
         2 CleavelandClinic          AB+                                      40
         3 NYC                       O+                                       30
         5 Chariton                  AB-                                      30
         6 Greennoaks                B-                                       40
         8 Parkland                  B+                                       30
        10 WalnutHill                O+                                       40

6 rows selected.
```

Arithmetic Operator:

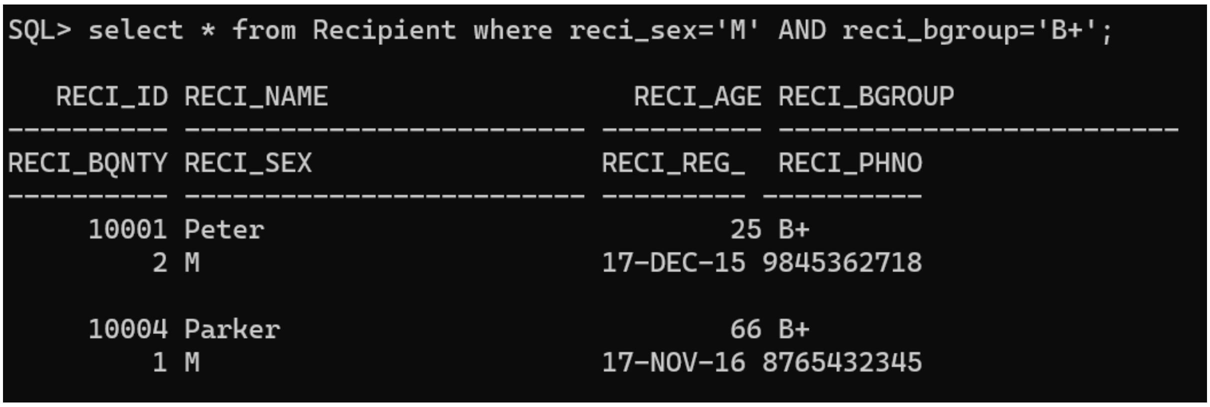


```
SQL> select specimen_number+status as sum from Bloodspecimen;

       SUM
----------
      1002
      1003
      1004
      1005
      1005
      1007
      1008
      1008
      1010
      1010

10 rows selected.
```

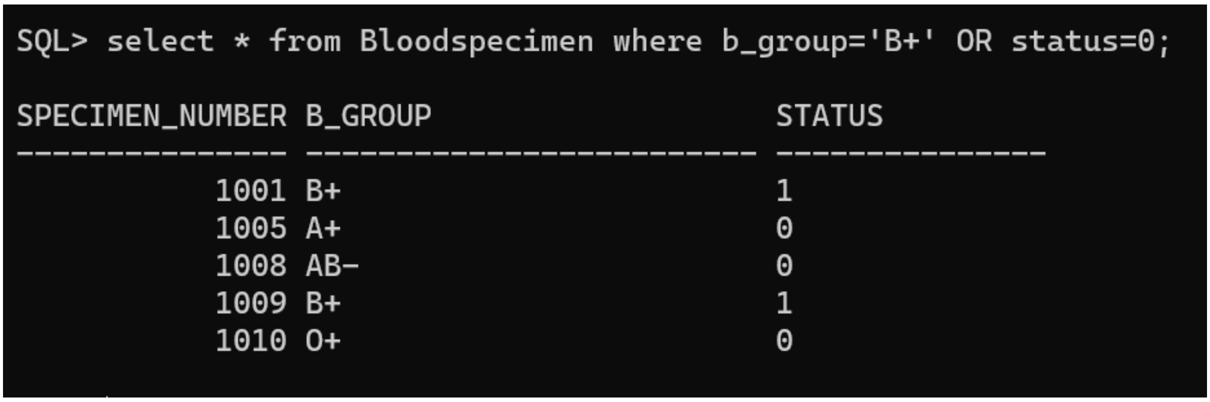


```
SQL> select hosp_needed_bqnty-hosp_id as sub from hospital_info;

       SUB
----------
        19
        38
        27
         6
        25
        34
        13
        22
         1
        30

10 rows selected.
```

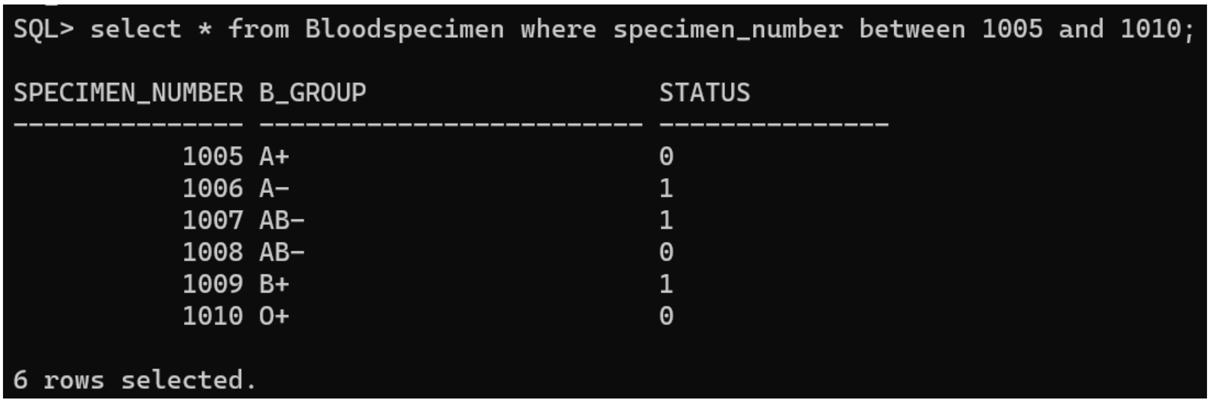
Logical Operators:



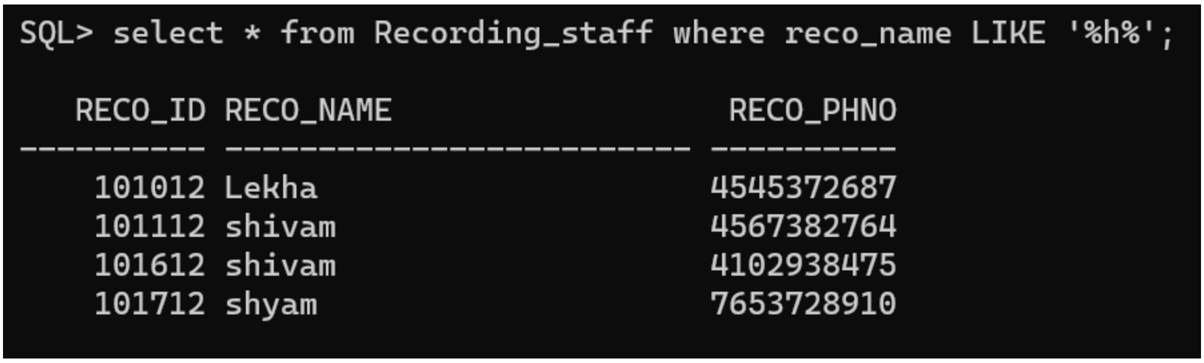
```
SQL> select * from Recipient where reci_sex='M' AND reci_bgroup='B+';

   RECI_ID RECI_NAME                   RECI_AGE RECI_BGROUP
---------- ------------------------- ---------- -------------------------
RECI_BQNTY RECI_SEX                  RECI_REG_  RECI_PHNO
---------- ------------------------- --------- ----------
     10001 Peter                             25 B+
         2 M                         17-DEC-15 9845362718

     10004 Parker                            66 B+
         1 M                         17-NOV-16 8765432345
```



```
SQL> select * from Bloodspecimen where b_group='B+' OR status=0;

SPECIMEN_NUMBER B_GROUP                   STATUS
--------------- ------------------------- ---------------
           1001 B+                        1
           1005 A+                        0
           1008 AB-                       0
           1009 B+                        1
           1010 O+                        0
```

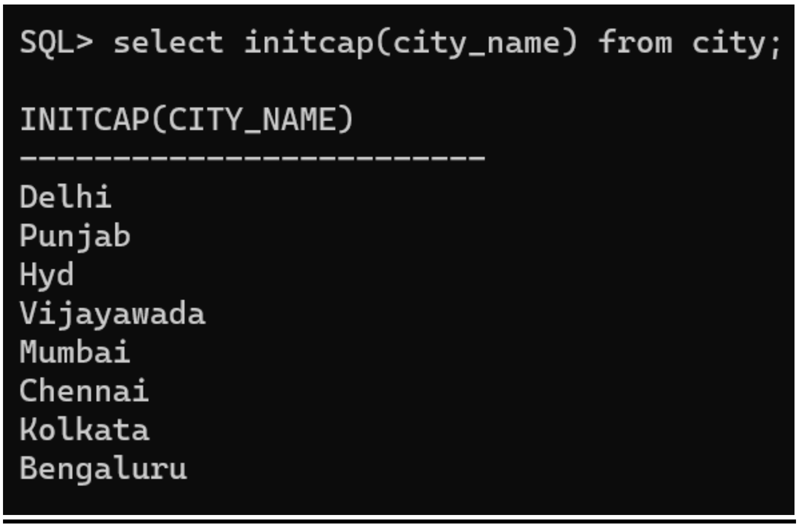


```
SQL> select * from Bloodspecimen where specimen_number between 1005 and 1010;

SPECIMEN_NUMBER B_GROUP                   STATUS
--------------- ------------------------- ---------------
           1005 A+                        0
           1006 A-                        1
           1007 AB-                       1
           1008 AB-                       0
           1009 B+                        1
           1010 O+                        0

6 rows selected.
```

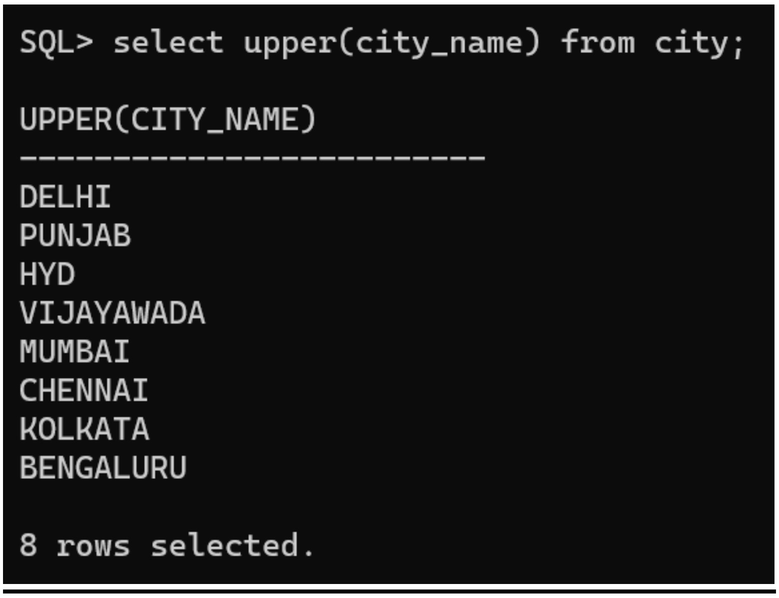


```
SQL> select * from Recording_staff where reco_name LIKE '%h%';

   RECO_ID RECO_NAME                  RECO_PHNO
---------- ------------------------- ----------
    101012 Lekha                     4545372687
    101112 shivam                    4567382764
    101612 shivam                    4102938475
    101712 shyam                     7653728910
```

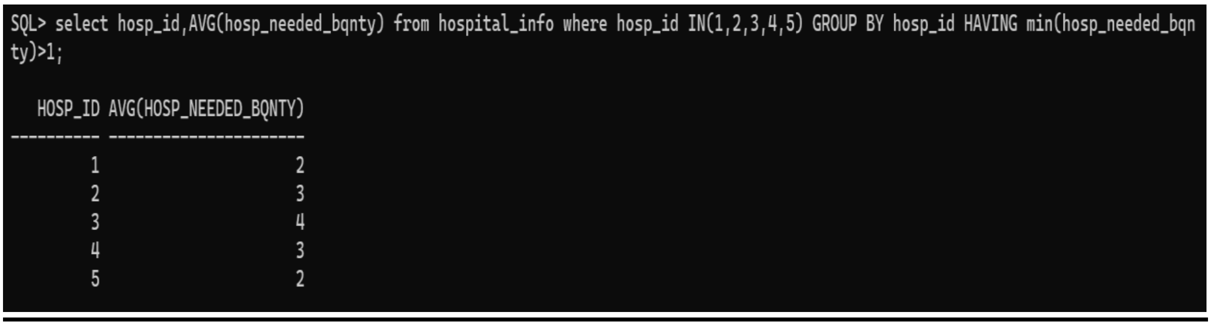
SQL FUNCTIONS:



```
SQL> select initcap(city_name) from city;

INITCAP(CITY_NAME)
-------------------------
Delhi
Punjab
Hyd
Vijayawada
Mumbai
Chennai
Kolkata
Bengaluru
```



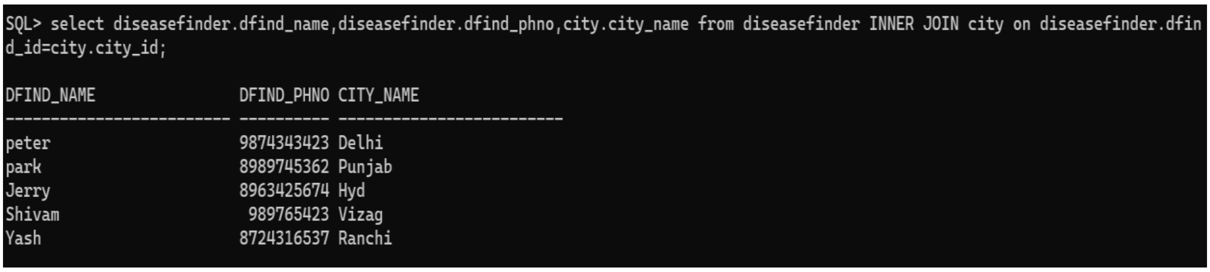
```
SQL> select upper(city_name) from city;

UPPER(CITY_NAME)
-------------------------
DELHI
PUNJAB
HYD
VIJAYAWADA
MUMBAI
CHENNAI
KOLKATA
BENGALURU

8 rows selected.
```



```
SQL> select hosp_id,AVG(hosp_needed_bqnty) from hospital_info where hosp_id IN(1,2,3,4,5) GROUP BY hosp_id HAVING min(hosp_needed_bqn
ty)>1;

   HOSP_ID AVG(HOSP_NEEDED_BQNTY)
---------- ----------------------
         1                      2
         2                      3
         3                      4
         4                      3
         5                      2
```

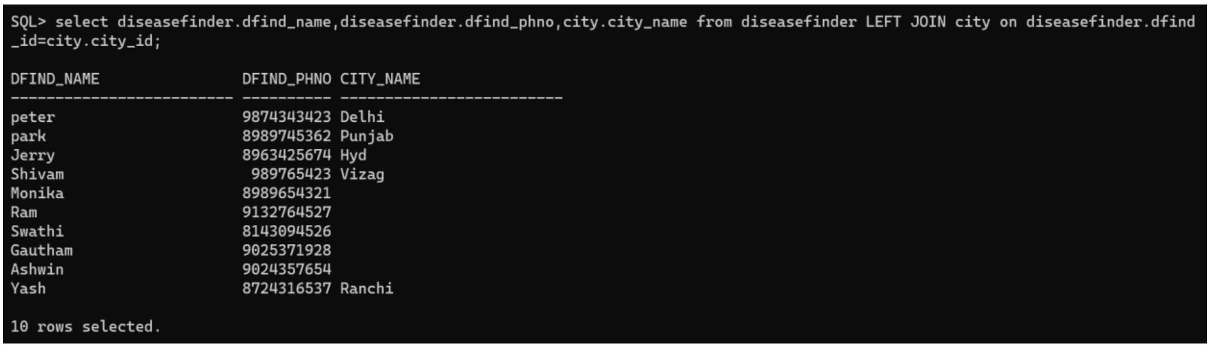
JOINING TABLES:

1.INNER JOIN:



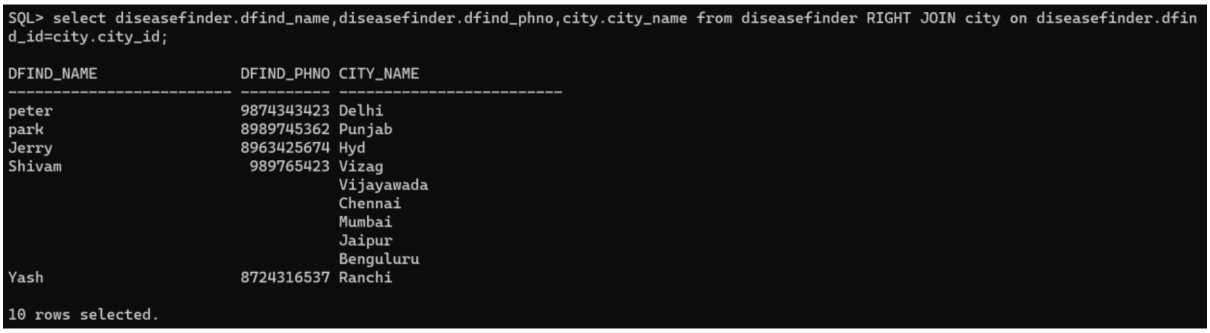
```
SQL> select diseasefinder.dfind_name,diseasefinder.dfind_phno,city.city_name from diseasefinder INNER JOIN city on diseasefinder.dfin
d_id=city.city_id;

DFIND_NAME                DFIND_PHNO CITY_NAME
------------------------- ---------- -------------------------
peter                     9874343423 Delhi
park                      8989745362 Punjab
Jerry                     8963425674 Hyd
Shivam                     989765423 Vizag
Yash                      8724316537 Ranchi
```

2.LEFT JOIN:



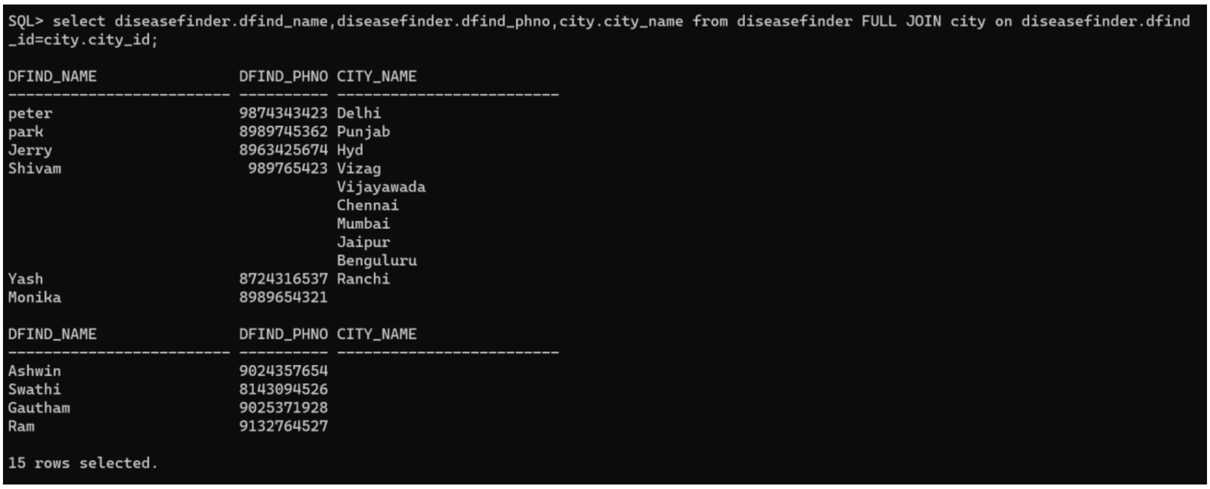
```
SQL> select diseasefinder.dfind_name,diseasefinder.dfind_phno,city.city_name from diseasefinder LEFT JOIN city on diseasefinder.dfind
_id=city.city_id;

DFIND_NAME                DFIND_PHNO CITY_NAME
------------------------- ---------- -------------------------
peter                     9874343423 Delhi
park                      8989745362 Punjab
Jerry                     8963425674 Hyd
Shivam                     989765423 Vizag
Monika                    8989654321
Ram                       9132764527
Swathi                    8143094526
Gautham                   9025371928
Ashwin                    9024357654
Yash                      8724316537 Ranchi

10 rows selected.
```

3.RIGHT JOIN:



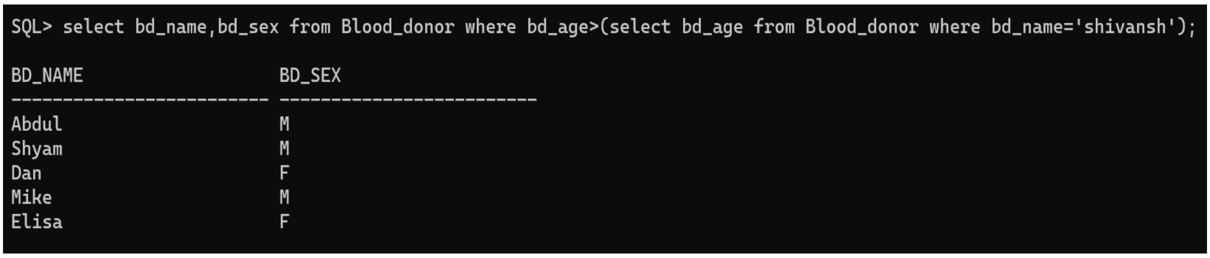
```
SQL> select diseasefinder.dfind_name,diseasefinder.dfind_phno,city.city_name from diseasefinder RIGHT JOIN city on diseasefinder.dfin
d_id=city.city_id;

DFIND_NAME                DFIND_PHNO CITY_NAME
------------------------- ---------- -------------------------
peter                     9874343423 Delhi
park                      8989745362 Punjab
Jerry                     8963425674 Hyd
Shivam                     989765423 Vizag
                                     Vijayawada
                                     Chennai
                                     Mumbai
                                     Jaipur
                                     Benguluru
Yash                      8724316537 Ranchi

10 rows selected.
```

4.FULL JOIN:

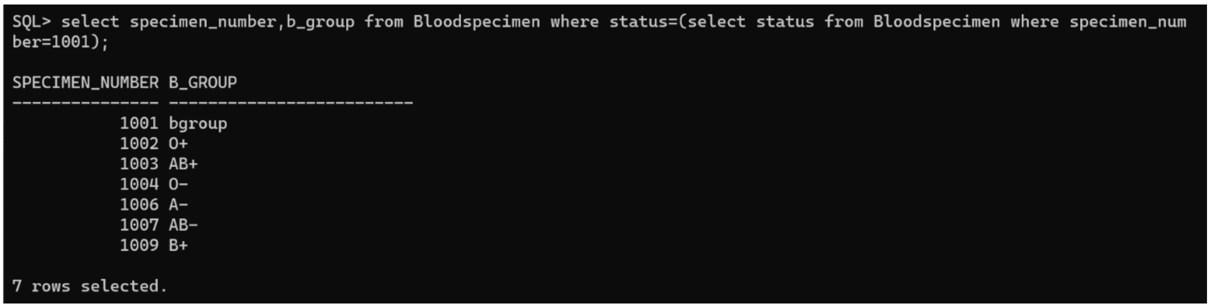


```
SQL> select diseasefinder.dfind_name,diseasefinder.dfind_phno,city.city_name from diseasefinder FULL JOIN city on diseasefinder.dfind
_id=city.city_id;

DFIND_NAME                DFIND_PHNO CITY_NAME
------------------------- ---------- -------------------------
peter                     9874343423 Delhi
park                      8989745362 Punjab
Jerry                     8963425674 Hyd
Shivam                     989765423 Vizag
                                     Vijayawada
                                     Chennai
                                     Mumbai
                                     Jaipur
                                     Benguluru
Yash                      8724316537 Ranchi
Monika                    8989654321

DFIND_NAME                DFIND_PHNO CITY_NAME
------------------------- ---------- -------------------------
Ashwin                    9024357654
Swathi                    8143094526
Gautham                   9025371928
Ram                       9132764527

15 rows selected.
```

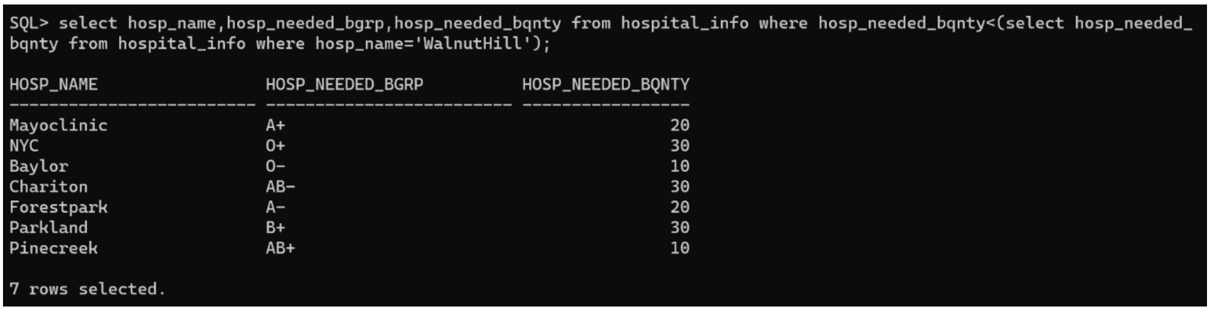
Sub queries:



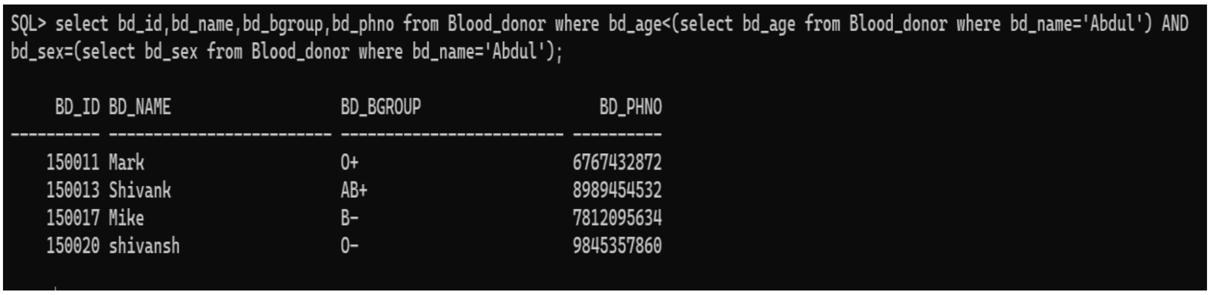
```
SQL> select bd_name,bd_sex from Blood_donor where bd_age>(select bd_age from Blood_donor where bd_name='shivansh');

BD_NAME                   BD_SEX
------------------------- -------------------------
Abdul                     M
Shyam                     M
Dan                       F
Mike                      M
Elisa                     F
```



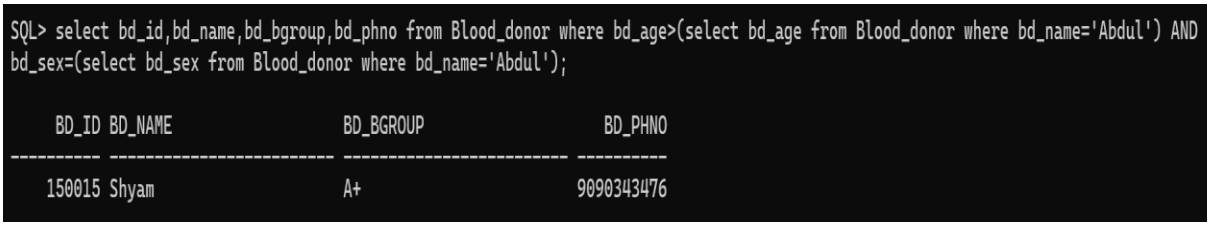
```
SQL> select specimen_number,b_group from Bloodspecimen where status=(select status from Bloodspecimen where specimen_num
ber=1001);

SPECIMEN_NUMBER B_GROUP
--------------- -------------------------
           1001 bgroup
           1002 O+
           1003 AB+
           1004 O-
           1006 A-
           1007 AB-
           1009 B+

7 rows selected.
```



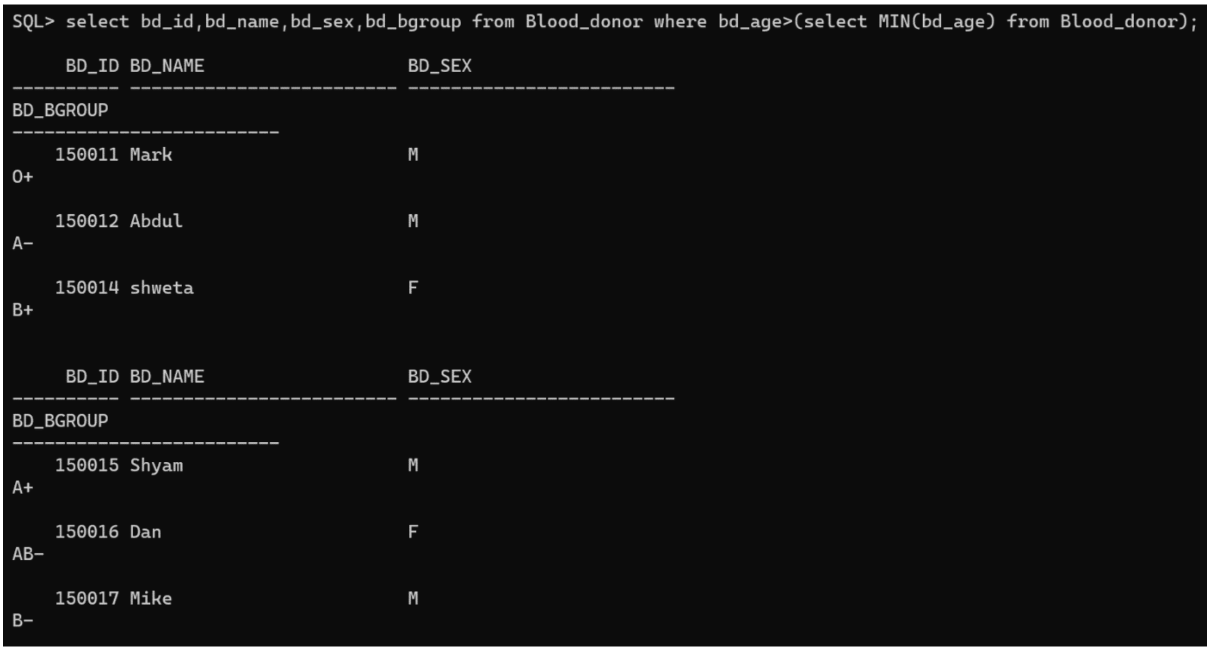
```
SQL> select hosp_name,hosp_needed_bgrp,hosp_needed_bqnty from hospital_info where hosp_needed_bqnty<(select hosp_needed_
bqnty from hospital_info where hosp_name='WalnutHill');

HOSP_NAME                 HOSP_NEEDED_BGRP          HOSP_NEEDED_BQNTY
------------------------- ------------------------- -----------------
Mayoclinic                A+                                       20
NYC                       O+                                       30
Baylor                    O-                                       10
Chariton                  AB-                                      30
Forestpark                A-                                       20
Parkland                  B+                                       30
Pinecreek                 AB+                                      10

7 rows selected.
```



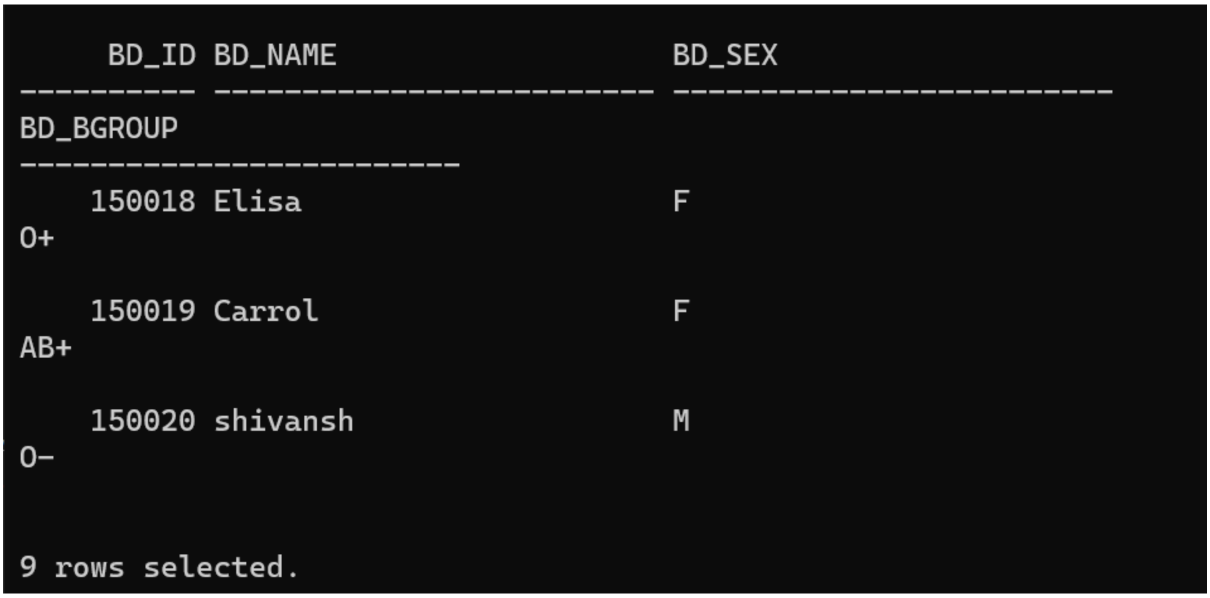
```
SQL> select bd_id,bd_name,bd_bgroup,bd_phno from Blood_donor where bd_age<(select bd_age from Blood_donor where bd_name='Abdul') AND
bd_sex=(select bd_sex from Blood_donor where bd_name='Abdul');

     BD_ID BD_NAME                   BD_BGROUP                    BD_PHNO
---------- ------------------------- ------------------------- ----------
    150011 Mark                      O+                        6767432872
    150013 Shivank                   AB+                       8989454532
    150017 Mike                      B-                        7812095634
    150020 shivansh                  O-                        9845357860
```



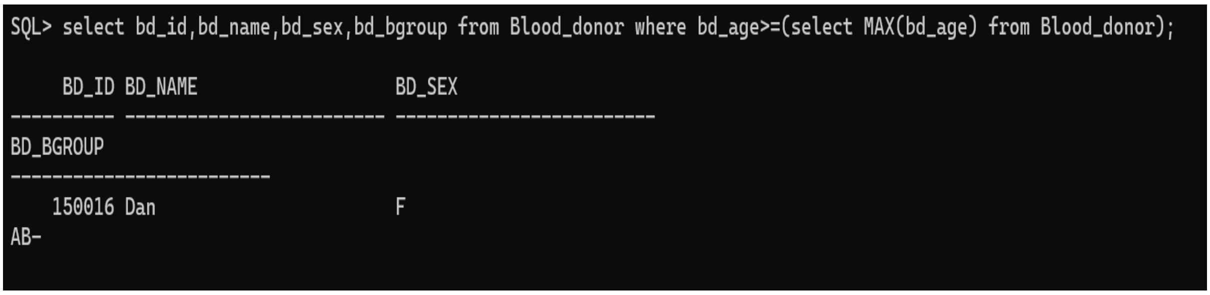
```
SQL> select bd_id,bd_name,bd_bgroup,bd_phno from Blood_donor where bd_age>(select bd_age from Blood_donor where bd_name='Abdul') AND
bd_sex=(select bd_sex from Blood_donor where bd_name='Abdul');

     BD_ID BD_NAME                   BD_BGROUP                    BD_PHNO
---------- ------------------------- ------------------------- ----------
    150015 Shyam                     A+                        9090343476
```



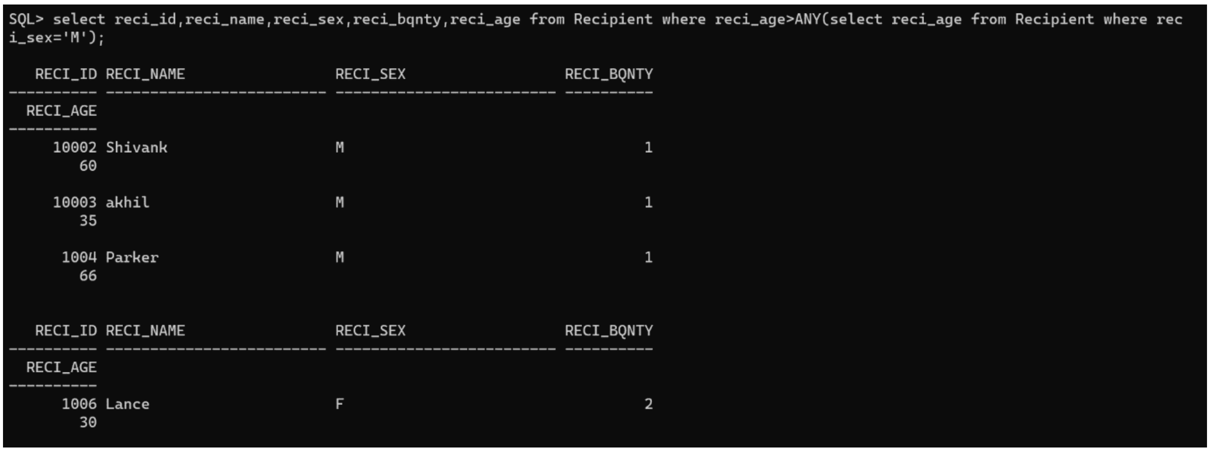
```
SQL> select bd_id,bd_name,bd_sex,bd_bgroup from Blood_donor where bd_age>(select MIN(bd_age) from Blood_donor);

     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP
-------------------------
    150011 Mark                      M
O+

    150012 Abdul                     M
A-

    150014 shweta                    F
B+


     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP
-------------------------
    150015 Shyam                     M
A+

    150016 Dan                       F
AB-

    150017 Mike                      M
B-
```



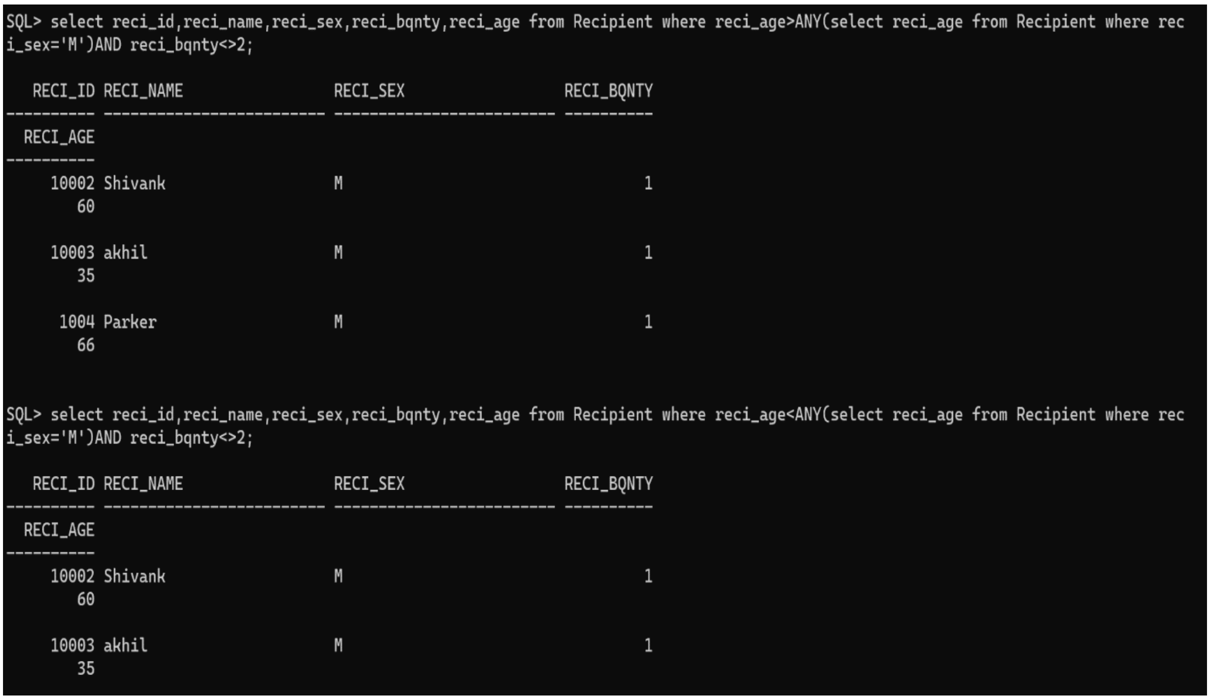
```
     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP
-------------------------
    150018 Elisa                     F
O+

    150019 Carrol                    F
AB+

    150020 shivansh                  M
O-


9 rows selected.
```



```
SQL> select bd_id,bd_name,bd_sex,bd_bgroup from Blood_donor where bd_age>=(select MAX(bd_age) from Blood_donor);

     BD_ID BD_NAME                   BD_SEX
---------- ------------------------- -------------------------
BD_BGROUP
-------------------------
    150016 Dan                       F
AB-
```

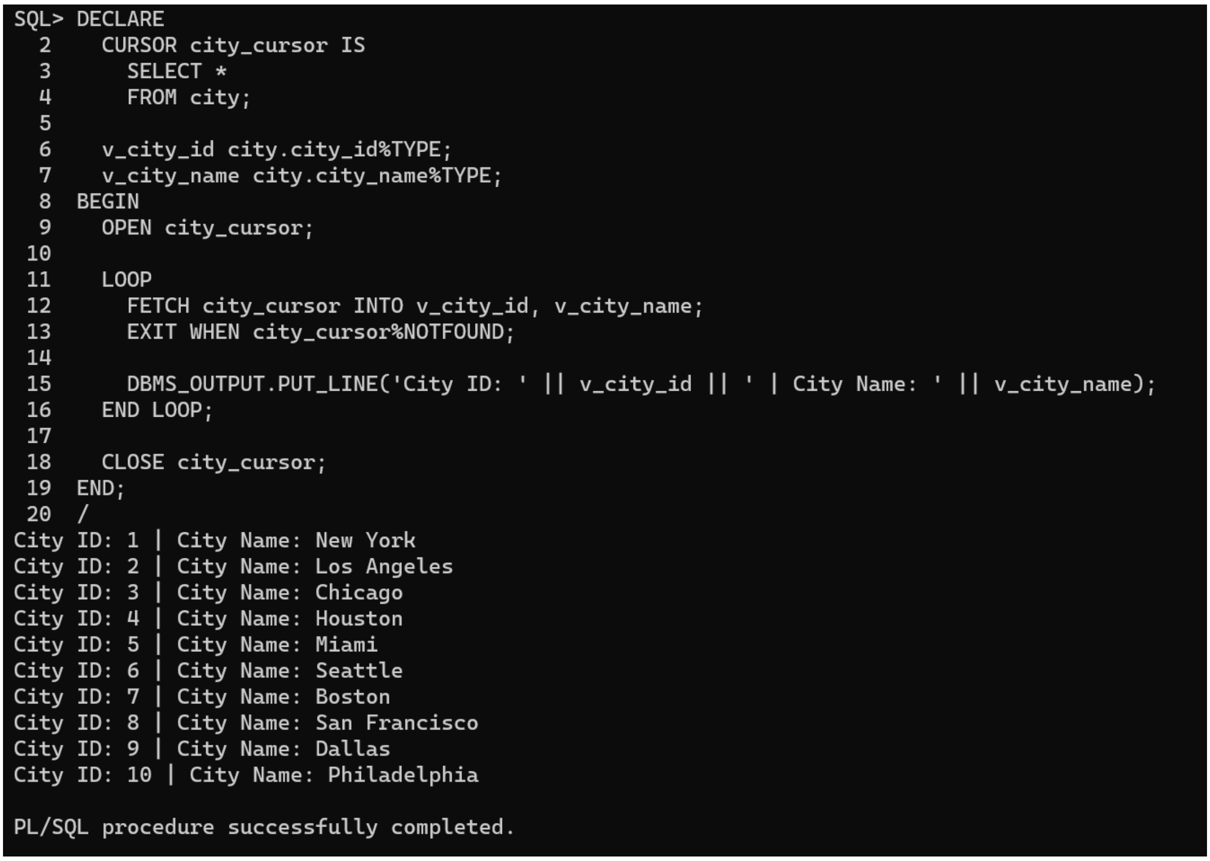


```
SQL> select reci_id,reci_name,reci_sex,reci_bqnty,reci_age from Recipient where reci_age>ANY(select reci_age from Recipient where rec
i_sex='M');

   RECI_ID RECI_NAME                 RECI_SEX                  RECI_BQNTY
---------- ------------------------- ------------------------- ----------
  RECI_AGE
----------
     10002 Shivank                   M                                  1
        60

     10003 akhil                     M                                  1
        35

      1004 Parker                    M                                  1
        66


   RECI_ID RECI_NAME                 RECI_SEX                  RECI_BQNTY
---------- ------------------------- ------------------------- ----------
  RECI_AGE
----------
      1006 Lance                     F                                  2
        30
```

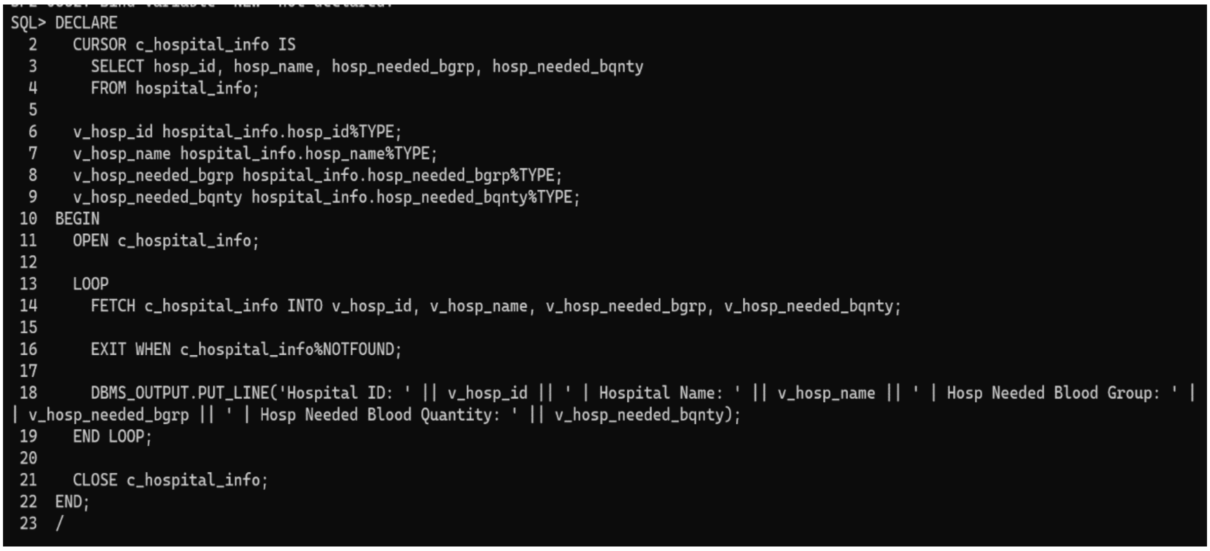


```
SQL> select reci_id,reci_name,reci_sex,reci_bqnty,reci_age from Recipient where reci_age>ANY(select reci_age from Recipient where rec
i_sex='M')AND reci_bqnty<>2;

   RECI_ID RECI_NAME                 RECI_SEX                  RECI_BQNTY
---------- ------------------------- ------------------------- ----------
  RECI_AGE
----------
     10002 Shivank                   M                                  1
        60

     10003 akhil                     M                                  1
        35

      1004 Parker                    M                                  1
        66


SQL> select reci_id,reci_name,reci_sex,reci_bqnty,reci_age from Recipient where reci_age<ANY(select reci_age from Recipient where rec
i_sex='M')AND reci_bqnty<>2;

   RECI_ID RECI_NAME                 RECI_SEX                  RECI_BQNTY
---------- ------------------------- ------------------------- ----------
  RECI_AGE
----------
     10002 Shivank                   M                                  1
        60

     10003 akhil                     M                                  1
        35
```

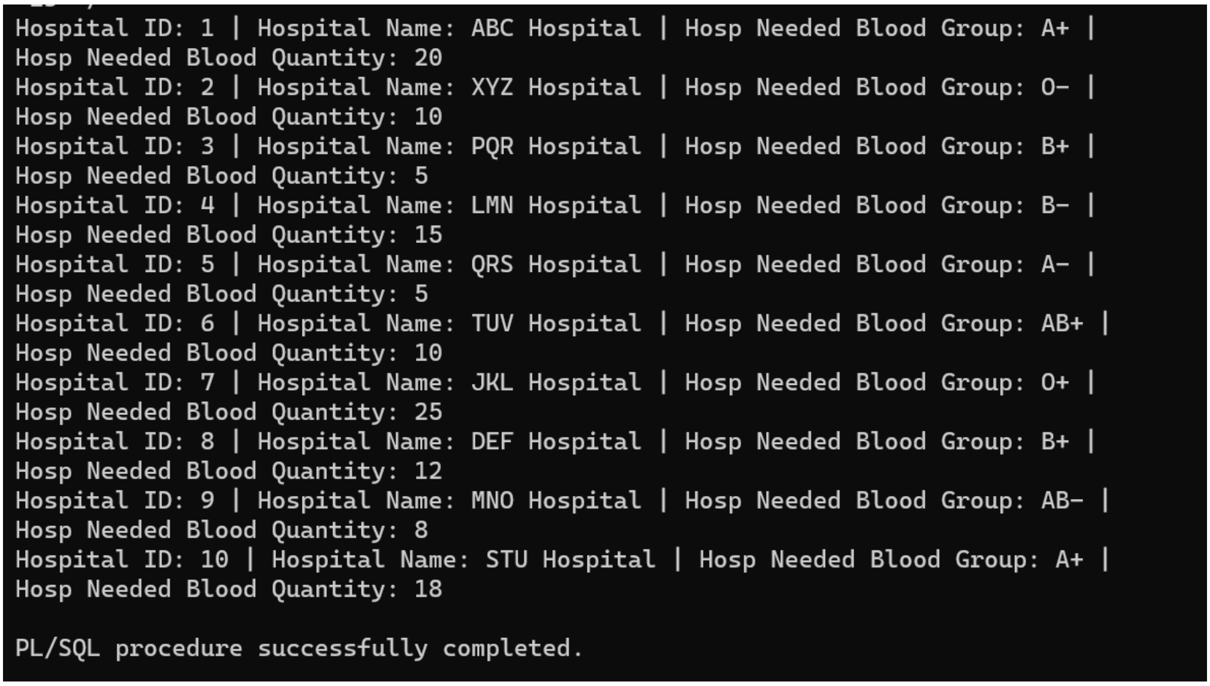
PL/SQL:



```
SQL> DECLARE
  CURSOR city_cursor IS
    SELECT *
    FROM city;

  v_city_id city.city_id%TYPE;
  v_city_name city.city_name%TYPE;
BEGIN
  OPEN city_cursor;

  LOOP
    FETCH city_cursor INTO v_city_id, v_city_name;
    EXIT WHEN city_cursor%NOTFOUND;

    DBMS_OUTPUT.PUT_LINE('City ID: ' || v_city_id || ' | City Name: ' || v_city_name);
  END LOOP;

  CLOSE city_cursor;
END;
/
City ID: 1 | City Name: New York
City ID: 2 | City Name: Los Angeles
City ID: 3 | City Name: Chicago
City ID: 4 | City Name: Houston
City ID: 5 | City Name: Miami
City ID: 6 | City Name: Seattle
City ID: 7 | City Name: Boston
City ID: 8 | City Name: San Francisco
City ID: 9 | City Name: Dallas
City ID: 10 | City Name: Philadelphia

PL/SQL procedure successfully completed.
```



```
SP2-0552: Bind variable "NEW" not declared.
SQL> DECLARE
  CURSOR c_hospital_info IS
    SELECT hosp_id, hosp_name, hosp_needed_bgrp, hosp_needed_bqnty
    FROM hospital_info;

  v_hosp_id hospital_info.hosp_id%TYPE;
  v_hosp_name hospital_info.hosp_name%TYPE;
  v_hosp_needed_bgrp hospital_info.hosp_needed_bgrp%TYPE;
  v_hosp_needed_bqnty hospital_info.hosp_needed_bqnty%TYPE;
BEGIN
  OPEN c_hospital_info;

  LOOP
    FETCH c_hospital_info INTO v_hosp_id, v_hosp_name, v_hosp_needed_bgrp, v_hosp_needed_bqnty;

    EXIT WHEN c_hospital_info%NOTFOUND;

    DBMS_OUTPUT.PUT_LINE('Hospital ID: ' || v_hosp_id || ' | Hospital Name: ' || v_hosp_name || ' | Hosp Needed Blood Group: ' |
| v_hosp_needed_bgrp || ' | Hosp Needed Blood Quantity: ' || v_hosp_needed_bqnty);
  END LOOP;

  CLOSE c_hospital_info;
END;
/
```



```
Hospital ID: 1 | Hospital Name: ABC Hospital | Hosp Needed Blood Group: A+ |
Hosp Needed Blood Quantity: 20
Hospital ID: 2 | Hospital Name: XYZ Hospital | Hosp Needed Blood Group: O- |
Hosp Needed Blood Quantity: 10
Hospital ID: 3 | Hospital Name: PQR Hospital | Hosp Needed Blood Group: B+ |
Hosp Needed Blood Quantity: 5
Hospital ID: 4 | Hospital Name: LMN Hospital | Hosp Needed Blood Group: B- |
Hosp Needed Blood Quantity: 15
Hospital ID: 5 | Hospital Name: QRS Hospital | Hosp Needed Blood Group: A- |
Hosp Needed Blood Quantity: 5
Hospital ID: 6 | Hospital Name: TUV Hospital | Hosp Needed Blood Group: AB+ |
Hosp Needed Blood Quantity: 10
Hospital ID: 7 | Hospital Name: JKL Hospital | Hosp Needed Blood Group: O+ |
Hosp Needed Blood Quantity: 25
Hospital ID: 8 | Hospital Name: DEF Hospital | Hosp Needed Blood Group: B+ |
Hosp Needed Blood Quantity: 12
Hospital ID: 9 | Hospital Name: MNO Hospital | Hosp Needed Blood Group: AB- |
Hosp Needed Blood Quantity: 8
Hospital ID: 10 | Hospital Name: STU Hospital | Hosp Needed Blood Group: A+ |
Hosp Needed Blood Quantity: 18

PL/SQL procedure successfully completed.
```