

# **DATA MANAGEMENT AND DATABASE DESIGN**

## **PROJECT**

**Team Name: Resonance**

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## **Introduction:**

- **Background**

As per the current COVID-19 pandemic scenario, hospitals and governments are having hard time keeping track of the recovered and active COVID patients and plasma donors. In instances, it also has been observed that the plasma is issued to low-risk patients who do not have immediate necessity instead of high-risk patients. The existing system is based on assessment of biographical information and medical history of the donors and patients which is inefficient and does not incorporate key data like results of COVID tests, real-time health status of donors, current patients admitted and donors nearby hospitals, the demographical and geographical data of the hospitals etc. Considering this, there is a necessity of implementation of database management system in the aforementioned data system.

- **Goal**

The objective of this master's project is to create a database to centrally handle the information of all the Hospitals, Patients, Doctors and Plasma Banks in a region, and to provide access to this information with an easy to use web-based interface that can be accessed by any device with basic html rendering capabilities.

## **Attributes:**

1. User\_Credentials
2. Hospital
3. Doctor
4. Patient
5. Plasma Bank
6. PB\_inventory
7. Hospital\_Request
8. Hospital-Withdrawal
9. Doctor\_Request
10. Doctor-Withdrawal

## Data Dictionary

### 1. User\_Credentials

Column	Data Type	Description	Example
User_ID(PK)	INT(5)	Unique Key to Identify each user.	11109
Username	VARCHAR(10)	Username generated by end users	mssirsat
PIN	INT(6)	Six-digit PIN generated by user to login	300696

### 2. Hospital

Column	Data Type	Description	Example
H_ID(PK)	INT(4)	Unique ID associated with hospitals, Starts with 1	1109
User_ID(FK)	INT(5)	Unique Key to Identify each hospital.	11109
H_Name	VARCHAR(40)	Name of the Hospital	Boston Medical Centre
H_Address	VARCHAR(100)	Address of the Hospital	111 Huntington Avenue, Boylston St, Boston, MA 02199
H_Phone	INT(10)	Phone number of the hospital	6176388000

### 3. Doctor

Column	Data Type	Description	Example
D_ID(PK)	CHAR(5)	Unique 5-character ID assigned for each doctor working at the hospital, starts with D	D0983
H_ID(FK)	INT(4)	Unique ID associated with hospitals, Starts with 1	1109
User_ID(FK)	INT(5)	Unique Key to Identify each doctor.	30983
D_Name	VARCHAR(40)	Name of the Doctor	Bruce Banner
P_Count	INT(2)	No. patients the doctor is currently treating	09

#### 4. Patient

Column	Datatype	Description	Example
P_ID (PK)	INT(8)	Unique ID associated with each Patient, first 4 digits correspond to H_ID	11098324
D_ID (FK1)	CHAR(5)	Unique ID of the doctor treating patient	D0983
User_ID (FK2)	INT(5)	Unique Key to identify each patient.	48324
P_Name	VARCHAR(40)	Name of the patient	Siddhesh Aher
P_Age	INT(2)	Age of the patient	24
P_Blood Type	VARCHAR(3)	Blood type of the patient	B+
P_Status	CHAR(3)	Patient status (Active or recovered)	ACT/REC

#### 5. Plasma Bank

Column	Data Type	Description	Example
PB_ID(PK)	CHAR(6)	Unique 6-character ID assigned for each plasma bank, starts with PB	PB2389
User_ID(FK)	INT(5)	Unique Key to Identify each plasma bank.	22389
PB_Name	VARCHAR(40)	Name of the plasma bank	Boston Red Cross
PB_Address	VARCHAR(100)	Address of the plasma Bank	274 Tremont St, Boston, MA 02116
PB_Phone	INT(10)	Contact number of plasma Bank	8007332767

#### 6. PB\_inventory

Column	Data Type	Description	Example
Bloodbag_ID(PK)	CHAR(10)	Unique ID for each blood bag in inventory, first 6 characters correspond to PB_ID	PB23890018
PB_ID(FK)	CHAR(6)	Unique 6-character ID assigned for each plasma bank, starts with PB	PB2389
Blood_Type	VARCHAR(3)	Blood type corresponding to the blood bag	AB+, O-
Blood_Volume	INT(3)	No. of ml of blood stored in the blood bag	750

## 7. Hospital\_Request

Column	Datatype	Description	Example
H_ReqID (PK)	INT(8)	Unique ID generated for each request raised by Hospital, first 4 integers are H_ID	11094689
H_ID (FK)	INT(4)	Unique ID associated with hospitals, Starts with 1	1109
Blood_Type	VARCHAR(3)	Blood type requested	AB+
Request_Amount	INT(3)	Amount of blood in ml requested	750
Request_Date	TIMESTAMP	Timestamp of the request generated	2020:16:11 11:20:15
Request_Status	VARCHAR(8)	Status of the request	APPROVED, PENDING, REJECTED

## 8. Hospital\_Withdrawl

Column	Datatype	Description	Example
H_WDID (PK)	INT(8)	Unique ID generated for each withdrawal done by Hospital	09893620
H_ReqID (FK1)	INT(8)	Unique ID generated for each request raised by Hospital, first 4 integers are H_ID	11094689
Bloodbag_ID (FK2)	CHAR(10)	Unique ID for each blood bag in inventory, first 6 characters correspond to PB_ID	PB23890018
Withdrawal_Date	TIMESTAMP	Timestamp of the withdrawal	2020:17:11 08:15:32
Withdrawal_Status	CHAR(7)	Status of the withdrawal	COMPLETE / PENDING

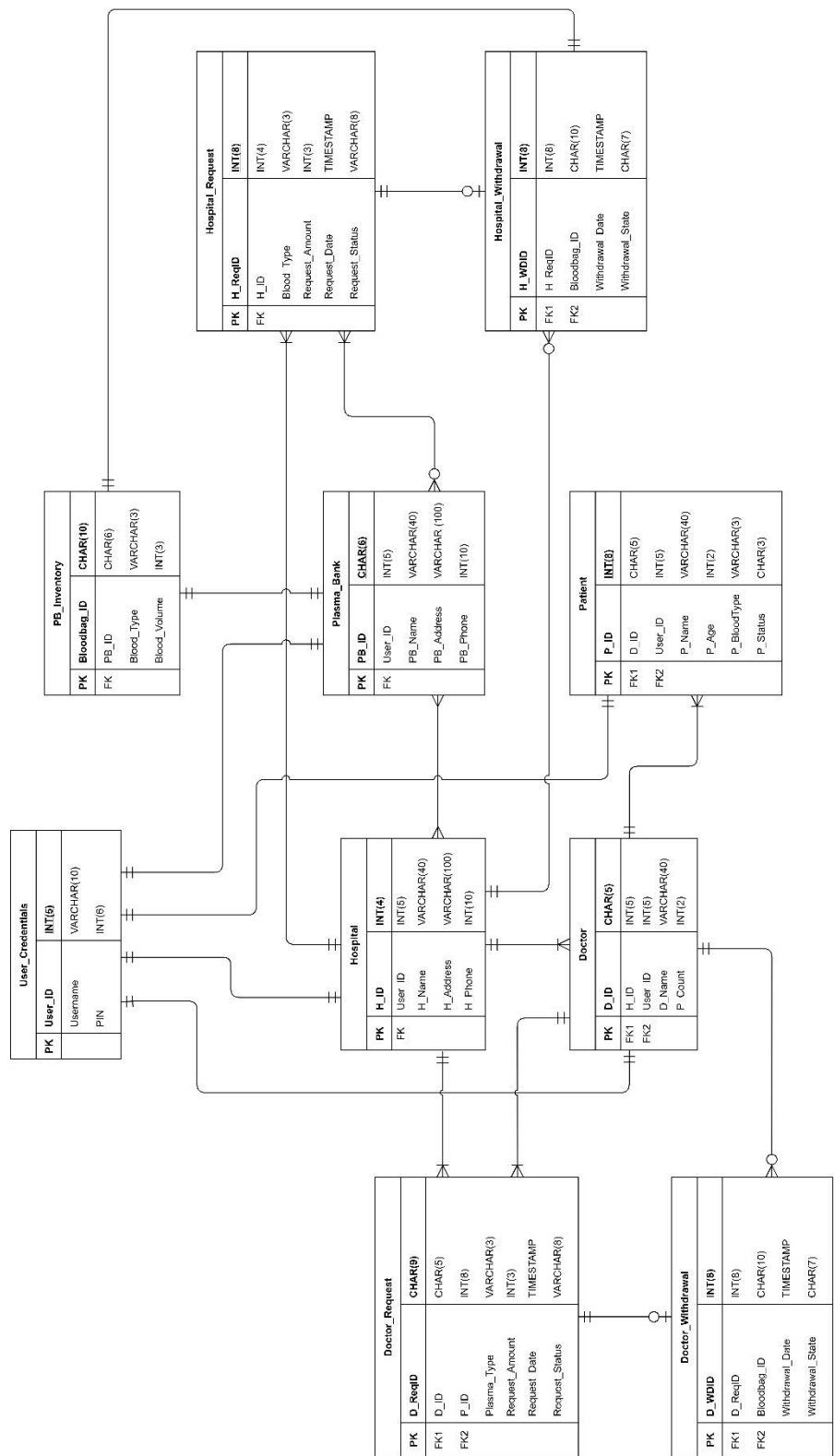
## 9. Doctor\_Request

Column	Datatype	Description	Example
D_ReqID (PK)	CHAR(9)	Unique ID generated for each request raised by Doctor, first 5 characters are D_ID	D09834424
D_ID (FK1)	CHAR(5)	Unique 5-character ID assigned for each doctor working at the hospital, starts with D	D0983
P_ID (FK2)	INT(8)	ID of patient for whom the request is generated	11098324
Plasma_Type	VARCHAR(3)	Blood type requested	AB+
Request_Amount	INT(3)	Amount of Blood in ml requested	750
Request_Date	TIMESTAMP	Timestamp of the request	2020:16:11 09:18:23
Request_Status	VARCHAR(8)	Status of the request	APPROVED, PENDING, REJECTED

## 10. Doctor\_Withdrawal

Column	Datatype	Description	Example
D_WDID (PK)	INT(8)	Unique ID generated for each withdrawal done by Doctor	44240001
D_ReqID (FK1)	CHAR(9)	Corresponding request ID	D09834424
Bloodbag_ID (FK2)	CHAR(10)	Unique ID of blood bag provided to the doctor	PB23890018
Withdrawal_Date	TIMESTAMP	Timestamp of the withdrawal	2020:17:11 16:32:09
Withdrawal_Status	CHAR(7)	Status of the withdrawal	COMPLETE / PENDING

Final Revised ER Diagram



## Business Rules

### 1. Hospital

- Each hospital can have many patients, but patient cannot be admitted to many hospitals at same time
- Each Hospital can have many doctors, but same doctors cannot work at different hospitals.
- Hospital can request plasma to many plasma banks but can withdraw from one bank for same request.
- Hospital can have many doctor requests.

### 2. Doctor

- Each doctor can have many patients, but patient cannot have many doctors.
- A doctor can work at one hospital only.
- Doctor can send many requests to hospital.
- Doctor can withdraw request from hospital.

### 3. Patient

- Patient can have only one doctor.

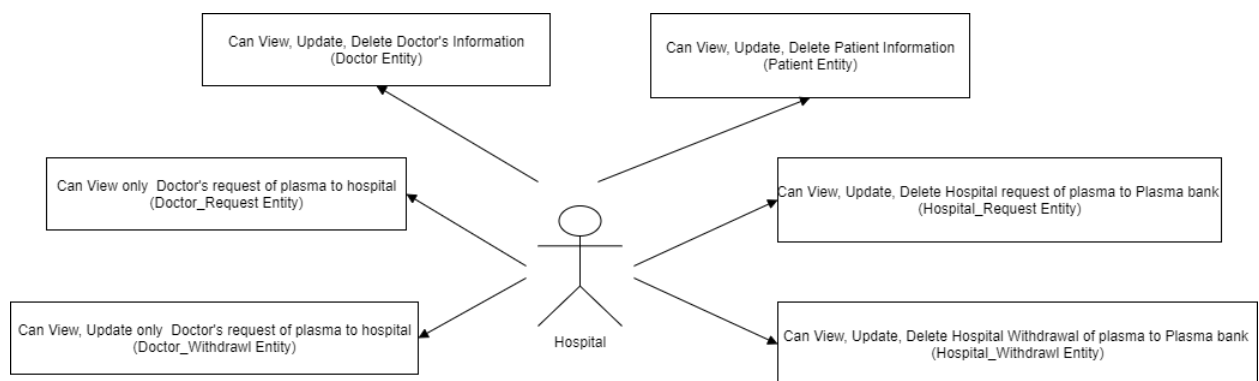
### 4. Plasma Bank

- Plasma banks can have many requests from many hospitals.

## User Level Security

### 1. Hospital

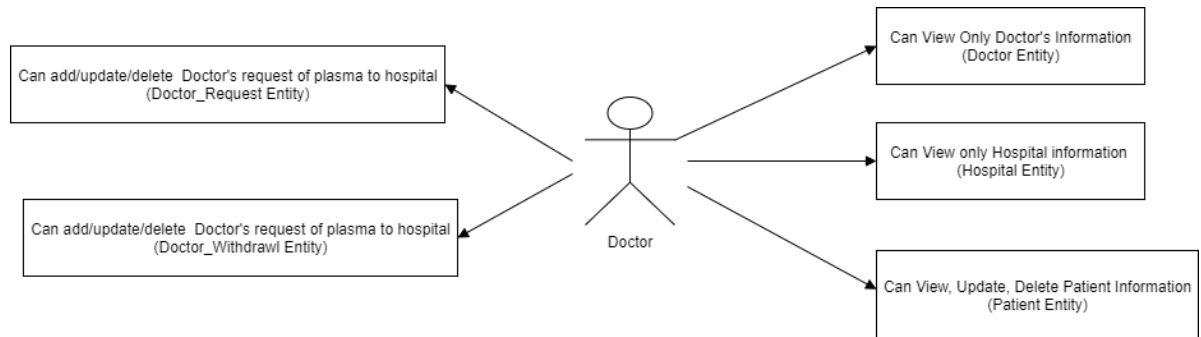
Hospital will have admin level of security as shown in following diagram.





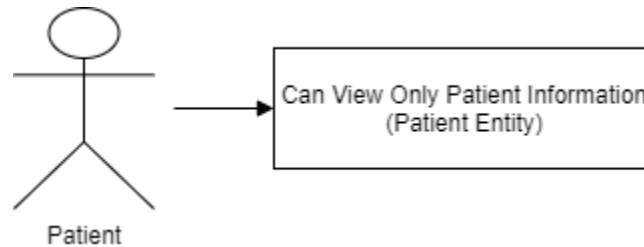
## 2. Doctor

Doctors can add/update/delete patient information, request and withdrawal of plasma to hospital as well.



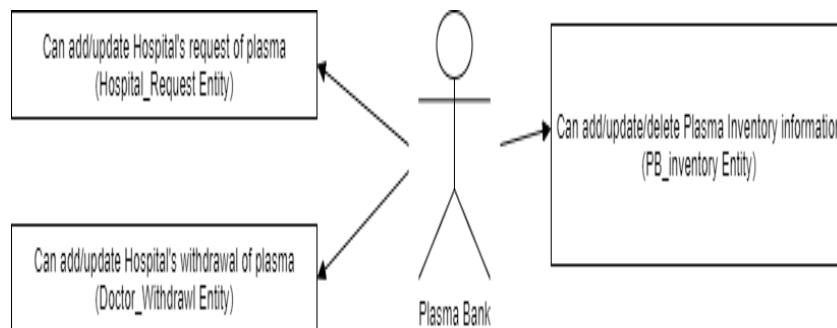
## 3. Patient

Patient can only view patient related information.



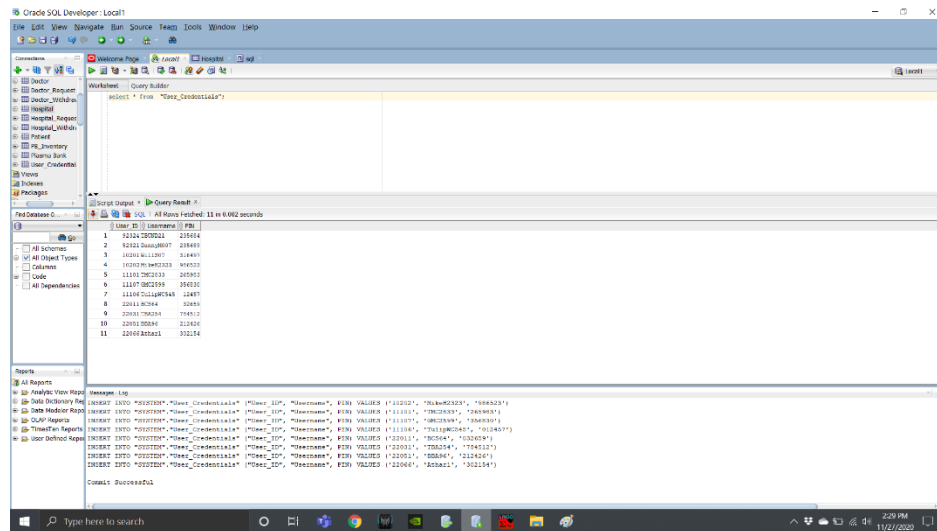
## 4. Plasma Bank

Plasma Banks can add/update/delete plasma bank inventory of own inventory and can view/update hospital request and withdrawal.



# Tables

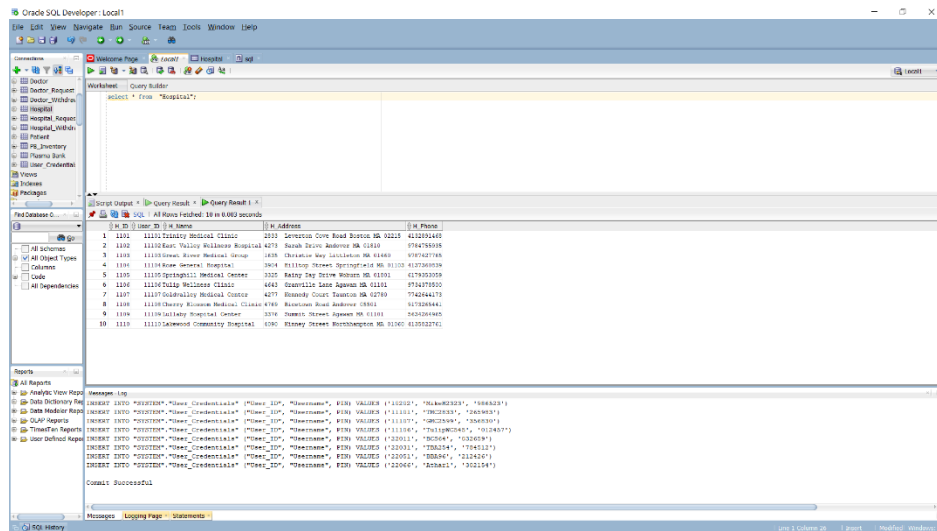
## 1. User\_Credentials



The screenshot shows the Oracle SQL Developer interface. The 'Query Result' window displays the following data:

USER_ID	USERNAME	PASSWORD	ACCOUNT_STATUS	EXPIRY_DATE	DEFAULT_ROLE	EXPIRED_DATE	LOCKED	CREATED	LAST_UPDATED
1	SCOTT	TJCL	OPEN	2024-12-31	SCOTT	2024-12-31	NO	2024-12-31	2024-12-31
2	HR	HR	OPEN	2024-12-31	HR	2024-12-31	NO	2024-12-31	2024-12-31
3	ADMIN	ADMIN	OPEN	2024-12-31	ADMIN	2024-12-31	NO	2024-12-31	2024-12-31
4	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31
5	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31
6	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31
7	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31
8	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31
9	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31
10	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31
11	SYSTEM	SYSTEM	OPEN	2024-12-31	SYSTEM	2024-12-31	NO	2024-12-31	2024-12-31

## 2. Hospital



The screenshot shows the Oracle SQL Developer interface. The 'Query Result' window displays the following data:

HOSPITAL_ID	HOSPITAL_NAME	ADDRESS	PHONE
1	1001	1001 Main Street, New York, NY 10001	212-555-1234
2	1002	1002 Main Street, New York, NY 10001	212-555-1234
3	1003	1003 Main Street, New York, NY 10001	212-555-1234
4	1004	1004 Main Street, New York, NY 10001	212-555-1234
5	1005	1005 Main Street, New York, NY 10001	212-555-1234
6	1006	1006 Main Street, New York, NY 10001	212-555-1234
7	1007	1007 Main Street, New York, NY 10001	212-555-1234
8	1008	1008 Main Street, New York, NY 10001	212-555-1234
9	1009	1009 Main Street, New York, NY 10001	212-555-1234
10	1010	1010 Main Street, New York, NY 10001	212-555-1234

### 3. Doctor

The screenshot shows the Oracle SQL Developer interface. The 'Query Builder' window displays a query: `select * from "Doctor"`. The 'Script Output' window shows the query result, which is a table with 17 rows and 5 columns: `P_ID`, `P_ID`, `P_ID`, `P_ID`, and `P_Count`. The 'Messages' window shows a successful execution message.

P_ID	P_ID	P_ID	P_ID	P_Count
1	10101	10101	10101	2
2	10102	10102	10102	5
3	10103	10103	10103	7
4	10104	10104	10104	4
5	10105	10105	10105	5
6	10106	10106	10106	8
7	10107	10107	10107	11
8	10108	10108	10108	10
9	10109	10109	10109	5
10	10110	10110	10110	3
11	10111	10111	10111	6
12	10112	10112	10112	8
13	10113	10113	10113	2
14	10114	10114	10114	1
15	10115	10115	10115	2
16	10116	10116	10116	1
17	10117	10117	10117	2

### 4. Patient

The screenshot shows the Oracle SQL Developer interface. The 'Query Builder' window displays a query: `select * from "Patient"`. The 'Script Output' window shows the query result, which is a table with 10 rows and 5 columns: `P_ID`, `P_ID`, `P_ID`, `P_ID`, and `P_Status`. The 'Messages' window shows a successful execution message.

P_ID	P_ID	P_ID	P_ID	P_Status
1	1101001	1101001	1101001	ACT
2	1101002	1101002	1101002	ACT
3	1101003	1101003	1101003	ACT
4	1101004	1101004	1101004	ACT
5	1101005	1101005	1101005	ACT
6	1101006	1101006	1101006	ACT
7	1101007	1101007	1101007	ACT
8	1101008	1101008	1101008	ACT
9	1101009	1101009	1101009	ACT
10	1101010	1101010	1101010	ACT

### 5. Plasma Bank

Oracle SQL Developer: Local1

Script Output: Query Result: 6 in 0.003 seconds

PB_ID	PB_Name	PB_Address	PB_Phone
1 PB0201	20111 Blood Cross Society	61 Melrose Dr. Arlington MA 02470	910403080
2 PB0202	20122 Heavy Blood Bank	62 Transfield Ave. Boston MA 02115	877242332
3 PB0203	20111 Blood Association	214 Tremont St. Somerville MA 02145	627623059
4 PB0204	20142 Blood Cross Society	214 Commonwealth Avenue Boston MA 02217	6887790409
5 PB0205	20143 Blood Bank Avenue	16 Essex St. Northfield MA 01105	910403080
6 PB0206	20144 Blood Bank Bank	53 Talbot St. Andover MA 01810	910403080

## 6. PB\_inventary

Oracle SQL Developer: Local1

Script Output: Query Result: 13 in 0.004 seconds

PB_ID	PB_Name	PB_Address	PB_Phone
1 PB0201	20111 Blood Cross Society	61 Melrose Dr. Arlington MA 02470	910403080
2 PB0202	20122 Heavy Blood Bank	62 Transfield Ave. Boston MA 02115	877242332
3 PB0203	20111 Blood Association	214 Tremont St. Somerville MA 02145	627623059
4 PB0204	20142 Blood Cross Society	214 Commonwealth Avenue Boston MA 02217	6887790409
5 PB0205	20143 Blood Bank Avenue	16 Essex St. Northfield MA 01105	910403080
6 PB0206	20144 Blood Bank Bank	53 Talbot St. Andover MA 01810	910403080

## 7. Hospital\_Request

8. Hospital\_Withdrawl

## 9. Doctor\_Request

## 10. Doctor\_Withdrawal

## SQL Statements

--DDL

```
CREATE TABLE "User_Credentials"  
(  
    "User_ID" NUMBER(4,0),  
    "Username" VARCHAR2(10 BYTE),  
    "PIN" NUMBER(6,0)  
);
```

```
CREATE TABLE "Hospital"  
(  
    "H_ID" NUMBER(4,0),  
    "User_ID" NUMBER(5,0),  
    "H_Name" VARCHAR(40),  
    "H_Address" VARCHAR(100),  
    "H_Phone" NUMBER(10,0)  
);
```

```
CREATE TABLE "Doctor"  
(  
    "D_ID" CHAR(5),  
    "H_ID" NUMBER(4,0),  
    "User_ID" NUMBER(5,0),  
    "D_Name" VARCHAR(40),  
    "P_Count" NUMBER (3)  
);
```

```
CREATE TABLE "Patient"  
(  
    "P_ID" NUMBER(8,0),  
    "D_ID" CHAR(5),  
    "User_ID" NUMBER(5,0),  
    "P_Name" VARCHAR(40),  
    "P_Age" NUMBER(2),  
    "P_Blood Type" VARCHAR(3),  
    "P_Status" CHAR(3)  
);
```

```
CREATE TABLE "Plasma Bank"  
(  
    "PB_ID" CHAR(6),  
    "User_ID" NUMBER(5,0),  
    "PB_Name" VARCHAR(40),  
    "PB_Address" VARCHAR2(100),  
    "PB_Phone" NUMBER(10)  
);
```

```
CREATE TABLE "PB_Inventory"  
(  
    "Bloodbag_ID" CHAR(10),  
    "PB_ID" CHAR(6),  
    "Blood_Type" VARCHAR(3),  
    "Blood_Volume" NUMBER(3,0)  
);
```

```
CREATE TABLE "Hospital_Request"  
(  
    "H_Req_ID" NUMBER(8,0),  
    "H_ID" NUMBER(4,0),  
    "Blood_Type" VARCHAR(3),  
    "Request_Amount" NUMBER(3,0),  
    "Request_Date" DATE,  
    "Request_Status" VARCHAR(8)  
);
```

```
CREATE TABLE "Hospital_Withdrawal"  
(  
    "H_WID" NUMBER(8),  
    "H_Req_ID" NUMBER(8,0),  
    "Bloodbag_ID" CHAR(10),  
    "Withdrawal_Date" DATE,  
    "Withdrawal_Status" VARCHAR(7)  
);
```

```
CREATE TABLE "Doctor_Request"  
(  
    "D_ReqID" CHAR(9),  
    "D_ID" CHAR(5),  
    "P_ID" NUMBER(8,0),  
    "Plasma_Type" VARCHAR(8),  
    "Request_Amount" NUMBER(3),  
    "Request_Date" DATE,  
    "Request_Status" VARCHAR(8)  
);
```

```
CREATE TABLE "Doctor_Withdrawal"  
(  
    "D_WID" NUMBER(9,0),  
    "D_ReqID" CHAR(9),  
    "Bloodbag_ID" CHAR(10),  
    "Withdrawal_Date" DATE,  
    "Withdrawal_Status" CHAR(7)  
);
```



--DML

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('10202', 'MikeH2323', '986523')

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('11101', 'TMC2833', '265983')

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('11107', 'GMC2599', '356830')

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('11106', 'TulipWC545', '012457')

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('22011', 'BCS64', '032659')

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('22031', 'TBA254', '784512')

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('22051', 'BBA96', '212426')

INSERT INTO "SYSTEM"."User\_Credentials" ("User\_ID", "Username", PIN) VALUES ('22066', 'Athar1', '302154')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1101', '11101', 'Trinity Medical Clinic', '2833 Leverton Cove Road Boston MA 02215', '4132891468')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1102', '11102', 'East Valley Wellness Hospital', '4273 Sarah Drive Andover MA 01810', '9784755935')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1103', '11103', 'Great River Medical Group', '1635 Christie Way Littleton MA 01460', '9787427765')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1104', '11104', 'Rose General Hospital', '3904 Hilltop Street Springfield MA 01103', '4137360839')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1105', '11105', 'Springhill Medical Center', '3325 Rainy Day Drive Woburn MA 01801', '6179353059')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1106', '11106', 'Tulip Wellness Clinic', '4643 Granville Lane Agawam MA 01101', '9734378500')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1107', '11107', 'Goldvalley Medical Center', '4277 Kennedy Court Taunton MA 02780', '7742644173')

INSERT INTO "SYSTEM"."Hospital" (H\_ID, "User\_ID", "H\_Name", "H\_Address", "H\_Phone") VALUES ('1108', '11108', 'Cherry Blossom Medical Clinic', '4769 Bicetown Road Andover 05501', '9173265441')

```

INSERT INTO "SYSTEM"."Hospital" (H_ID, "User_ID", "H_Name", "H_Address",
"H_Phone") VALUES ('1109', '11109', 'Lullaby Hospital Center', '3376 Summit Street Agawam
MA 01101', '5634264965')
INSERT INTO "SYSTEM"."Hospital" (H_ID, "User_ID", "H_Name", "H_Address",
"H_Phone") VALUES ('1110', '11110', 'Lakewood Community Hospital', '4090 Kinney Street
Northhampton MA 01060', '4135822761')

```

```

INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0101', '1101', '10101', 'Bruce Baner ', '02')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0102', '1101', '10102', 'Mariya Salve', '05')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0103', '1101', '10103', 'Jayne Smith', '07')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0201', '1102', '10201', 'Will Smith', '06')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0202', '1102', '10202', 'Mike Hampton', '05')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0301', '1103', '10301', 'Aliya Beth', '09')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0302', '1103', '10302', 'Nigel Pronto', '11')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0401', '1104', '10401', 'Micheal S', '10')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0501', '1105', '10501', 'Tom Shelby', '05')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0601', '1106', '10601', 'Alpha Hestor', '03')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0701', '1107', '10701', 'Tom Hardy', '06')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0702', '1107', '10702', 'Ricky Clarke', '09')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0703', '1107', '10703', 'Fred Holland', '02')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0801', '1108', '10801', 'Rick Shaw', '01')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0901', '1109', '10901', 'Justin Blake', '02')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D0902', '1109', '10902', 'Julia Martinez', '01')
INSERT INTO "SYSTEM"."Doctor" (D_ID, H_ID, "User_ID", "D_Name", "P_Count")
VALUES ('D1001', '1110', '11001', 'Mark Vettel', '02')

```

```

INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Blood
Type", "P_Status") VALUES ('11012983', 'D0101', '12983', 'Jayne Smith', '32', 'O+', 'ACT')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Status")
VALUES ('11015248', 'D0102', '15248', 'Akela Johnson', '45', 'REC')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Blood
Type", "P_Status") VALUES ('11022953', 'D0201', '22953', 'Nirmala S', '58', 'A+', 'REC')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Blood
Type", "P_Status") VALUES ('11026575', 'D0202', '26575', 'Micheal Gray', '57', 'A-', 'ACT')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Blood
Type", "P_Status") VALUES ('11036587', 'D0301', '36587', 'Advin Sore', '48', 'AB+', 'REC')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Blood
Type", "P_Status") VALUES ('11046321', 'D0401', '46321', 'David Villa', '65', 'B-', 'REC')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Status")
VALUES ('11052321', 'D0501', '52321', 'Danny Morrison', '20', 'ACT')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Status")
VALUES ('11076589', 'D0702', '76589', 'Dan Oscar', '22', 'REC')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Status")
VALUES ('11092324', 'D0908', '92324', 'Tom Bundle', '49', 'ACT')
INSERT INTO "SYSTEM"."Patient" (P_ID, D_ID, "User_ID", "P_Name", "P_Age", "P_Blood
Type", "P_Status") VALUES ('11102321', 'D1001', '02321', 'Rachel Johnson', '84', 'O+', 'ACT')

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INSERT INTO "SYSTEM"."Plasma Bank" (PB_ID, "User_ID", "PB_Name", "PB_Address",
"PB_Phone") VALUES ('PB2201', '22011', 'Blood Cross Society', '64 Melrose St Arlington MA
02478', '7816434090')
INSERT INTO "SYSTEM"."Plasma Bank" (PB_ID, "User_ID", "PB_Name", "PB_Address",
"PB_Phone") VALUES ('PB2202', '22022', 'Rotary Blood Bank', '96 Viscoloid Ave Boston MA
02215', '9787284321')
INSERT INTO "SYSTEM"."Plasma Bank" (PB_ID, "User_ID", "PB_Name", "PB_Address",
"PB_Phone") VALUES ('PB2203', '22031', 'The Blood Association', '254 Tremont St Leominster
MA 02516', '6175423659')
INSERT INTO "SYSTEM"."Plasma Bank" (PB_ID, "User_ID", "PB_Name", "PB_Address",
"PB_Phone") VALUES ('PB2204', '22042', 'Red Cross Society', '274 Commonwealth Avenue
Boston MA 02217', '6857798499')
INSERT INTO "SYSTEM"."Plasma Bank" (PB_ID, "User_ID", "PB_Name", "PB_Address",
"PB_Phone") VALUES ('PB2205', '22051', 'Blood Bank Avenue', '96 Clemon St Springfield MA
01103', '9784276082')
INSERT INTO "SYSTEM"."Plasma Bank" (PB_ID, "User_ID", "PB_Name", "PB_Address",
"PB_Phone") VALUES ('PB2206', '22066', 'Athar Blood Bank', '53 Salem St Andover MA
01845', '9782580130')

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INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22011189', 'PB2201', 'A+', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22011189', 'PB2201', 'AB+', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22011170', 'PB2201', 'O-', '500')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22021150', 'PB2202', 'O-', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22021151', 'PB2202', 'A+', '500')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22031125', 'PB2203', 'B+', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22042525', 'PB2204', 'AB+', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22042121', 'PB2204', 'B+', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22041232', 'PB2204', 'A-', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22051247', 'PB2205', 'B-', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22051357', 'PB2205', 'AB-', '750')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22054598', 'PB2205', 'A+', '500')
INSERT INTO "SYSTEM"."PB_Inventory" ("Bloodbag_ID", PB_ID, "Blood_Type",
"Blood_Volume") VALUES ('PB22059869', 'PB2205', 'O+', '500')

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INSERT INTO "SYSTEM"."Doctor_Request" ("D_ReqID", D_ID, P_ID, "Plasma_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('D01012414', 'D0101',
'11012983', 'O+', '500', TO_DATE('2020-11-12 13:31:29', 'YYYY-MM-DD HH24:MI:SS'),
'APPROVED')
INSERT INTO "SYSTEM"."Doctor_Request" ("D_ReqID", D_ID, P_ID, "Plasma_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('D02015458', 'D0201',
'11022953', 'A+', '750', TO_DATE('2020-08-20 13:32:46', 'YYYY-MM-DD HH24:MI:SS'),
'APPROVED')
INSERT INTO "SYSTEM"."Doctor_Request" ("D_ReqID", D_ID, P_ID, "Plasma_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('D02026541', 'D0202',
'11026575', 'A-', '250', TO_DATE('2020-11-26 13:33:31', 'YYYY-MM-DD HH24:MI:SS'),
'PENDING')
INSERT INTO "SYSTEM"."Doctor_Request" ("D_ReqID", D_ID, P_ID, "Plasma_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('D03016531', 'D0301',
'11036587', 'AB+', '500', TO_DATE('2020-11-27 13:34:05', 'YYYY-MM-DD HH24:MI:SS'),
'PENDING')
INSERT INTO "SYSTEM"."Doctor_Request" ("D_ReqID", D_ID, P_ID, "Plasma_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('D04012211', 'D0401',

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'11046321', 'B-', '500', TO_DATE('2020-11-04 13:34:53', 'YYYY-MM-DD HH24:MI:SS'),  
'APPROVED')  
INSERT INTO "SYSTEM"."Doctor_Request" ("D_ReqID", D_ID, P_ID, "Plasma_Type",  
"Request_Amount", "Request_Date", "Request_Status") VALUES ('D10012254', 'D1001',  
'11102321', 'O+', '750', TO_DATE('2020-11-02 13:35:21', 'YYYY-MM-DD HH24:MI:SS'),  
'REJECTED')
```

```
INSERT INTO "SYSTEM"."Doctor_Withdrawal" (D_WID, "D_ReqID", "Bloodbag_ID",  
"Withdrawal_Date", "Withdrawal_Status") VALUES ('01012414', 'D01012414', 'PB22012131',  
TO_DATE('2020-11-14 13:39:07', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')  
INSERT INTO "SYSTEM"."Doctor_Withdrawal" (D_WID, "D_ReqID", "Bloodbag_ID",  
"Withdrawal_Date", "Withdrawal_Status") VALUES ('02015458', 'D02015458', 'PB22026535',  
TO_DATE('2020-08-22 13:39:47', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')  
INSERT INTO "SYSTEM"."Doctor_Withdrawal" (D_WID, "D_ReqID", "Bloodbag_ID",  
"Withdrawal_Status") VALUES ('02026541', 'D02026541', 'PB22016532', 'PENDING')  
INSERT INTO "SYSTEM"."Doctor_Withdrawal" (D_WID, "D_ReqID", "Bloodbag_ID",  
"Withdrawal_Status") VALUES ('03016531', 'D03016531', 'PB22049854', 'PENDING')  
INSERT INTO "SYSTEM"."Doctor_Withdrawal" (D_WID, "D_ReqID", "Bloodbag_ID",  
"Withdrawal_Date", "Withdrawal_Status") VALUES ('04012211', 'D04012211', 'PB22031515',  
TO_DATE('2020-11-07 13:40:11', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')  
INSERT INTO "SYSTEM"."Doctor_Withdrawal" (D_WID, "D_ReqID", "Bloodbag_ID",  
"Withdrawal_Date", "Withdrawal_Status") VALUES ('10012254', 'D10012254', 'PB22051214',  
TO_DATE('2020-11-04 13:40:24', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')
```

```
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",  
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11019858', '1101', 'AB+',  
'700', TO_DATE('2020-07-06 12:28:38', 'YYYY-MM-DD HH24:MI:SS'), 'APPROVED')  
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",  
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11019587', '1101', 'O-', '750',  
TO_DATE('2020-06-30 12:29:16', 'YYYY-MM-DD HH24:MI:SS'), 'APPROVED')  
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",  
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11026514', '1102', 'A+',  
'500', TO_DATE('2020-06-22 12:29:47', 'YYYY-MM-DD HH24:MI:SS'), 'APPROVED')  
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",  
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11036514', '1103', 'AB-',  
'500', TO_DATE('2020-07-06 12:30:17', 'YYYY-MM-DD HH24:MI:SS'), 'APPROVED')  
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",  
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11046985', '1103', 'B+', '750',  
TO_DATE('2020-11-25 12:30:46', 'YYYY-MM-DD HH24:MI:SS'), 'PENDING')
```

```

INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11056548', '1105', 'A-', '750',
TO_DATE('2020-11-27 12:31:51', 'YYYY-MM-DD HH24:MI:SS'), 'PENDING')
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11064874', '1106', 'AB+',
'500', TO_DATE('2020-11-26 12:32:34', 'YYYY-MM-DD HH24:MI:SS'), 'PENDING')
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11075421', '1107', 'A-', '750',
TO_DATE('2020-11-03 12:32:57', 'YYYY-MM-DD HH24:MI:SS'), 'REJECTED')
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11085454', '1108', 'B-', '500',
TO_DATE('2020-11-19 12:33:23', 'YYYY-MM-DD HH24:MI:SS'), 'APPROVED')
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11096532', '1109', 'AB-',
'750', TO_DATE('2020-11-27 12:33:54', 'YYYY-MM-DD HH24:MI:SS'), 'PENDING')
INSERT INTO "SYSTEM"."Hospital_Request" ("H_Req_ID", H_ID, "Blood_Type",
"Request_Amount", "Request_Date", "Request_Status") VALUES ('11103212', '1110', 'O+',
'250', TO_DATE('2020-11-26 12:34:26', 'YYYY-MM-DD HH24:MI:SS'), 'PENDING')

```

```

INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID", "Bloodbag_ID",
"Withdrawal_Date", "Withdrawal_Status") VALUES ('01013212', '11019858', 'PB22013212',
TO_DATE('2020-07-07 12:44:07', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID", "Bloodbag_ID",
"Withdrawal_Date", "Withdrawal_Status") VALUES ('01015614', '11019587', 'PB22015614',
TO_DATE('2020-07-01 12:44:21', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID", "Bloodbag_ID",
"Withdrawal_Date", "Withdrawal_Status") VALUES ('02032541', '11026514', 'PB22032541',
TO_DATE('2020-06-23 12:44:35', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID", "Bloodbag_ID",
"Withdrawal_Date", "Withdrawal_Status") VALUES ('03016598', '11036514', 'PB22016598',
TO_DATE('2020-07-07 12:44:43', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID",
"Withdrawal_Status") VALUES ('04026985', '11046985', 'PENDING')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID",
"Withdrawal_Status") VALUES ('05654877', '11056548', 'PENDING')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID",
"Withdrawal_Status") VALUES ('06487432', '11064874', 'PENDING')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID", "Bloodbag_ID",
"Withdrawal_Date", "Withdrawal_Status") VALUES ('07049848', '11075421', 'PB22049848',
TO_DATE('2020-11-04 12:45:02', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID", "Bloodbag_ID",
"Withdrawal_Date", "Withdrawal_Status") VALUES ('08056548', '11085454', 'PB22056548',
TO_DATE('2020-11-22 12:45:12', 'YYYY-MM-DD HH24:MI:SS'), 'DONE')

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```
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID",  
"Withdrawal_Status") VALUES ('09653212', '11096532', 'PENDING')  
INSERT INTO "SYSTEM"."Hospital_Withdrawal" (H_WID, "H_Req_ID",  
"Withdrawal_Status") VALUES ('10321222', '11103212', 'PENDING')
```

--PK

```
alter table "SYSTEM"."User_Credentials" add constraint PK_User primary key("User_ID")
```

```
alter table "SYSTEM"."Hospital" add constraint PK_HID primary key("H_ID")
```

```
alter table "SYSTEM"."Doctor" add constraint PK_D_ID primary key("D_ID")
```

```
alter table "SYSTEM"."Patient" add constraint PK_PID primary key("P_ID")
```

```
alter table "SYSTEM"."Plasma Bank" add constraint PK_PB_ID primary key("PB_ID")
```

```
alter table "SYSTEM"."PB_Inventory" add constraint PK_BID primary key("Bloodbag_ID")
```

```
alter table "SYSTEM"."Hospital_Request" add constraint PK_HReqID primary  
key("H_Req_ID")
```

```
alter table "SYSTEM"."Hospital_Withdrawal" add constraint PK_HWID primary key("H_WID")
```

```
alter table "SYSTEM"."Doctor_Request" add constraint PK_DReqID primary key("D_ReqID")
```

```
alter table "SYSTEM"."Doctor_Withdrawal" add constraint PK_DWID primary key("D_WID")
```

--Index

--Triggers