BLOOD BANK DATABASE

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MEGAN SPIERS

DUKE – SUMMER 2020

INTRODUCTION

ABBREVIATED PROBLEM STATEMENT:

THE DATABASE WILL BE USED IN A BLOOD BANK. THE BLOOD BANK DATABASE WILL CONTAIN INFORMATION ABOUT THE BLOOD DONORS, BLOOD RECIPIENTS, EMPLOYEES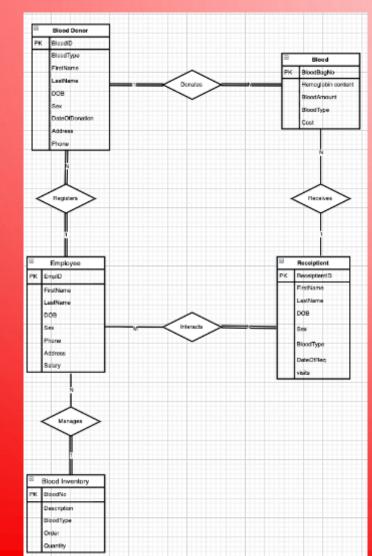, BLOOD INVENTORY, AND BLOOD, ITSELF. ALL INPUT AND MODIFICATION WILL BE DONE BY THE EMPLOYEES, AND THE BLOOD WILL BE DRAWN AND STORED IN THE BLOOD INVENTORY.

DATABASE DESIGN

ER DIAGRAM

ORIGINAL DESIGN
WITH SPACES EXAMPLE

```
DROP TABLE if exists `Blood Donor`;
CREATE TABLE `Blood Donor` (
 BloodID     INT PRIMARY KEY,
 `Blood Type` VARCHAR(4),
 `First Name` VARCHAR(20),
 `Last Name` VARCHAR(20),
 DOB          VARCHAR(30),
 Sex          VARCHAR(10),
 `Date of Donation`   VARCHAR(40),
 Address      VARCHAR(50),
 Phone        VARCHAR(100)

);
```

ALTERED DESIGN
WITHOUT SPACES EXAMPLE

```
DROP TABLE if exists Blood_Donor;
CREATE TABLE Blood_Donor(
 BloodID     INT PRIMARY KEY,
 Blood_Type VARCHAR(4),
 First_Name VARCHAR(20),
 Last_Name VARCHAR(20),
 DOB          VARCHAR(30),
 Sex          VARCHAR(10),
 Date_of_Donation   VARCHAR(40),
 Address      VARCHAR(50),
 Phone        VARCHAR(100)

);
```

GOOGLE CLOUD PLATFORM AND CLOUD SQL

Google Cloud Platform

SECURITY PERMISSIONS

```
CREATE ROLE students;
CREATE ROLE professor;

GRANT students TO spiersmm, akbari;
GRANT professor TO s2dmduke;

GRANT SELECT ON Blood_Donor, Recipient, Employee,
              Blood_Inventory, Blood TO professor;
GRANT ALL PRIVILEGES ON Blood_Donor, Recipient, Employee,
                     Blood_Inventory, Blood TO students;
```
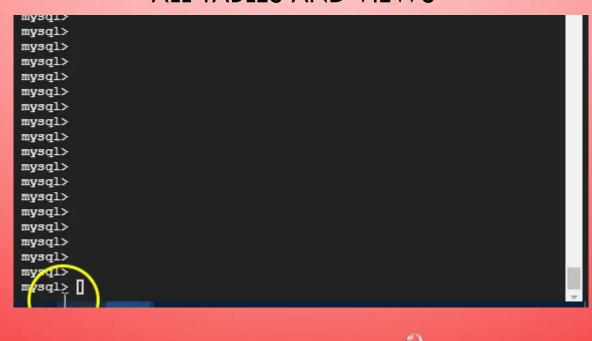
BLOOD BANK DATABASE CONTENTS

ALL TABLES AND VIEWS

IMPORTANT QUERIES: #1

VIEW CREATION

```
CREATE VIEW Blood_Inventory_Stock AS
SELECT Blood_Type, Quantity
FROM Blood_Inventory;
```

SQL QUERY

```
-- 1. What is the current stock of the blood inventory?
SELECT *
FROM Blood_Inventory_Stock;

-- Should Return:
--              +------------+----------+
--              | Blood_Type | Quantity |
--              +------------+----------+
--              | AB-        |       12 |
--              | B+         |       30 |
--              | O-         |       51 |
--              +------------+----------+
```

CLOUD SHELL RUN
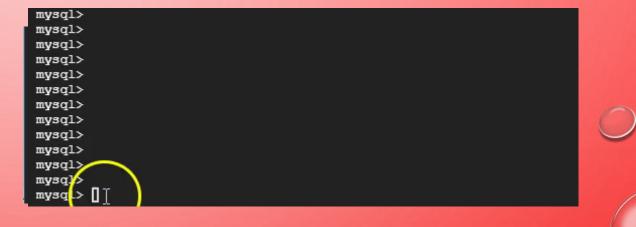
```
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql> []
```

SQL QUERY

CLOUD SHELL RUN

IMPORTANT QUERIES: #3

SQL QUERY

```
-- 9. What is the description on a certain bloodno (ex. 42785)?
SELECT Description
FROM Blood_Inventory
WHERE BloodNo = '42785';

-- Should Return:
--            +------------------+
--            | Description      |
--            +------------------+
--            | No Complications |
--            +------------------+
```

CLOUD SHELL RUN

```
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql> ☐
```

IMPORTANT QUERIES: #4

SQL QUERY

```
-- 10. When was the last time the blood donor donated (ex. Drew Brees)?
SELECT Date_of_Donation
FROM Blood_Donor
WHERE (First_Name LIKE 'Drew') AND (Last_Name LIKE 'Brees');

-- Should Return:
--              +-----------------+
--              | Date_of_Donation |
--              +-----------------+
--              | 05/20/2019      |
--              +-----------------+
```

CLOUD SHELL RUN

```
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql> []
```

IMPORTANT QUERIES: #5

SQL QUERY

```
-- 13. What is the cost of a specific blood transfusion (ex. A-)?
SELECT Cost
FROM Blood
WHERE Blood_Type = 'A-';

-- Should Return:
--            +------+
--            | Cost |
--            +------+
--            | $275 |
--            +------+
```

CLOUD SHELL RUN

CONCLUSION

DON'T HESITATE TO REACH OUT WITH QUESTIONS

GITHUB LINK: [OUR GITHUB REPOSITORY](#)

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