**# SP23: APPLIED DATABASE TECHNOLOGIES**

**# Week-11 Final Project – Phase-2**

**# Project Title: Blood Link: Blood Bank Management and Monitoring System**

**# Team Memeber: Aniruddho Chatterjee, Jerin Easo Thomas, Shreya Mariam Varghese**

**##------Section 1. Creation of tables-------**

**-- Section 1 Code Authorship : Shreya Mariam Varghese - svarghe**

**## Donor Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE Donor (**

**DonorId INT PRIMARY KEY NOT NULL,**

**Name CHAR(200) NOT NULL,**

**Contact BIGINT(50) NOT NULL,**

**Email VARCHAR(200) NOT NULL,**

**BloodType VARCHAR(200) NOT NULL,**

**DOB DATE NOT NULL,**

**Gender VARCHAR(200) NOT NULL,**

**Address VARCHAR(200) NOT NULL**

**);**

**## Recipient Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE Recipient (**

**RecipientId INT PRIMARY KEY NOT NULL,**

**Name CHAR(200) NOT NULL,**

**Contact BIGINT(50) NOT NULL,**

**Email VARCHAR(200) NOT NULL,**

**RequiredBloodType VARCHAR(200) NOT NULL,**

**DOB DATE NOT NULL,**

**Gender VARCHAR(200) NOT NULL,**

**Address VARCHAR(200) NOT NULL**

**);**

**## BloodBank Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE BloodBank (**

**BloodBankId INT PRIMARY KEY NOT NULL,**

**Name VARCHAR(200) NOT NULL,**

**Contact VARCHAR(200),**

**Helpline VARCHAR(200),**

**Address VARCHAR(200),**

**State VARCHAR(200) NOT NULL,**

**District VARCHAR(200) NOT NULL,**

**City VARCHAR(200) NOT NULL,**

**Pincode BIGINT(50),**

**Fax VARCHAR(200),**

**Website VARCHAR(200),**

**Category VARCHAR(200),**

**ServiceTime VARCHAR(200)**

**);**

**## Appointment Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE Appointment (**

**AppointmentId INT PRIMARY KEY NOT NULL,**

**DonorId INT,**

**RecipientId INT,**

**BloodBankId INT NOT NULL,**

**Date DATE NOT NULL,**

**Time TIME NOT NULL,**

**FOREIGN KEY (DonorId) REFERENCES Donor(DonorId),**

**FOREIGN KEY (RecipientId) REFERENCES Recipient(RecipientId),**

**FOREIGN KEY (BloodBankId) REFERENCES BloodBank(BloodBankId)**

**);**

**## BloodSample Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE BloodSample (**

**SampleId INT PRIMARY KEY NOT NULL AUTO\_INCREMENT,**

**DonorId INT NOT NULL,**

**BloodBankId INT NOT NULL,**

**CollectionDate DATE NOT NULL,**

**ExpirationDate DATE NOT NULL,**

**BloodType VARCHAR(200) NOT NULL,**

**HaemoglobinLevel VARCHAR(200),**

**RBCCount VARCHAR(200),**

**WBCCount VARCHAR(200),**

**Quantity INT(50),**

**FOREIGN KEY (DonorId) REFERENCES Donor(DonorId),**

**FOREIGN KEY (BloodBankId) REFERENCES BloodBank(BloodBankId)**

**);**

**## BloodTransfusion Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE BloodTransfusion (**

**TransfusionId INT PRIMARY KEY NOT NULL AUTO\_INCREMENT,**

**BloodBankId INT NOT NULL,**

**RecipientId INT NOT NULL,**

**SampleId INT NOT NULL,**

**TransfusionDate DATE NOT NULL,**

**BloodType VARCHAR(200) NOT NULL,**

**TransfusedQuantity VARCHAR(200),**

**TransfusionStatus VARCHAR(200) NOT NULL,**

**FOREIGN KEY (RecipientId) REFERENCES Recipient(RecipientId),**

**FOREIGN KEY (BloodBankId) REFERENCES BloodBank(BloodBankId),**

**FOREIGN KEY (SampleId) REFERENCES BloodSample(SampleId)**

**);**

**## Inventory Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE Inventory (**

**BloodBankId INT NOT NULL,**

**BloodType VARCHAR(200) NOT NULL,**

**Quantity INT(200)NOT NULL,**

**FOREIGN KEY (BloodBankId) REFERENCES BloodBank(BloodBankId)**

**);**

**## Nodal Table - Code Authorship : Shreya Mariam Varghese - svarghe**

**CREATE TABLE Nodal (**

**BloodBankId INT NOT NULL,**

**OfficerName VARCHAR(200) NOT NULL,**

**OfficerContact VARCHAR(200),**

**OfficerEmail VARCHAR(200),**

**OfficerQualification varchar(200)**

**);**

**#Code Authorship : Shreya Mariam Varghese - svarghe**

**## Drop Table Commands**

**DROP table Inventory;**

**DROP table Appointment;**

**DROP table BloodTransfusion;**

**DROP table Donor;**

**DROP table Recipient;**

**Drop table Nodal;**

**Drop table mastertable;**

**DROP table BloodSample;**

**DROP table BloodBank;**

**##------Section 2. Project functionality along with Insert,Update and Delete Commands-----**

**-- Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**## BloodBank Insert, Update, Truncate and Delete Commands**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**ALTER TABLE BloodBank**

**MODIFY Contact VARCHAR(100),**

**MODIFY Helpline VARCHAR(100);**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**SELECT \* FROM BloodBank**

**where State = 'Maharashtra' and city = 'Aurangabad';**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**TRUNCATE TABLE BloodBank;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**delete from BloodBank**

**where 1=1;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO BloodBank**

**SELECT Sr\_No, Blood\_Bank\_Name, concat(Contact\_No, ', ', Mobile) as Contact, Helpline, Address, State, District, City, Pincode, Fax, Website, Category, Service\_Time**

**FROM blood\_bank\_mastertable;**

**## Blood Tranfusion Insert commands**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO BloodTransfusion (TransfusionId, BloodBankId, RecipientId, SampleId, TransfusionDate, BloodType, TransfusedQuantity, TransfusionStatus)**

**VALUES (1, 1300, 1, 1, '2023-04-01', 'B+', 1, 'Complete');**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select RequiredBloodType from Recipient where RecipientId is not null;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from BloodTransfusion;**

**##Inventory Table Insert and Delete Commands**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**DELETE FROM Inventory;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Inventory (BloodBankId, BloodType, Quantity)**

**select A.BloodBankId, BloodType, sum(Quantity) as Quantity**

**from BloodBank A**

**INNER JOIN**

**BloodSample B**

**on A.BloodBankId = B.BloodBankId**

**group by 1,2;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from Inventory;**

**## Nodal Table Insert and Delete Commands**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**SELECT \* FROM Nodal;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**delete from Nodal**

**where (OfficerName = '' or OfficerName = 'NA' or OfficerName = 'Dr.' or OfficerName = 'N/A');**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Nodal**

**select Sr\_No, Nodal\_Officer, concat(Contact\_Nodal\_Officer, ', ', Mobile\_Nodal\_Officer) as OfficerContact, Email\_Nodal\_Officer, Qualification\_Nodal\_Officer**

**from blood\_bank\_mastertable;**

**## Data Insert to blood\_bank\_mastertable, the csv data for which is taken from Kaggle and inserted into BloodBank Table**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from blood\_bank\_mastertable;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**UPDATE blood\_bank\_mastertable SET Contact\_No = CONCAT(Contact\_No, ', ', Mobile);**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select Contact\_No, Mobile, concat(Contact\_No, ', ', Mobile) as Contact from blood\_bank\_mastertable;**

**## ---------Blood Donation process.-----------**

**##Initially the donor would have to create an account and the data for which would be inserted in the donor table.**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Donor (DonorId, Name, Contact, Email, BloodType, DOB, Gender, Address)**

**VALUES (2, 'Shreya Varghese', 8256748193, 'svarge@gmail.com', 'A+', '1999-04-17', 'Female', 'Thane, Mumbai, Maharashtra, India'),**

**(3, 'Chaitrali Ghanekar', 9215674712, 'chaitu@gmail.com', 'B+', '2000-04-20', 'Female', 'Karvenagar, Pune, Maharashtra, India'),**

**(4, 'Sushant Menon', 982279745, 'sushantmenon.com', 'A+', '2000-01-19', 'Male', 'Dandibeach, Surat, Gujarat, India'),**

**(5, 'Sakshi Sitoot', 936758123, 'ssitoot.com', 'AB+', '1997-10-31', 'Female', 'Meera Road, Surat, Maharashtra, India');**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Donor (DonorId, Name, Contact, Email, BloodType, DOB, Gender, Address)**

**VALUES (6, 'Vicktor Dennis', 8192481950, 'vdennis@gmail.com', 'O+', '1997-06-12', 'Male', 'Camp, Pune, Maharashtra, India'),**

**(7, 'Yash Vibhute', 9876541236, 'yash12@gmail.com', 'B+', '2000-06-14', 'Male', 'Chinchwad, Pune, Maharashtra, India'),**

**(8, 'Saurav', 8127784371, 'saurav98@gmail.com', 'AB-', '1998-10-07', 'Male', 'Hyderabad, India'),**

**(9, 'Atharv Bagade', 8135671034, 'atharvbagade@gmail.com', 'A-', '1998-11-24', 'Male', 'Andheri, Mumbai, Maharashtra, India'),**

**(10, 'Bhargave Desai', 9912674123, 'bdesai@gmail.com', 'O-', '1997-4-30', 'Male', 'Mumbai, Maharashtra, India');**

**## Once data is inserted the donor would have to crete an appointment to a particular hospital and the data for which**

**## would be inserted in Appointment table**

**## Below code is to insert records into appointment table for both Donor and Receipient, it also includes some update queries.**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**ALTER TABLE Appointment DROP FOREIGN KEY appointment\_ibfk\_1;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**ALTER TABLE Appointment**

**ADD CONSTRAINT FOREIGN KEY (RecipientId) REFERENCES Recipient(RecipientId);**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**ALTER TABLE Appointment**

**ADD CONSTRAINT appointment\_ibfk\_3**

**FOREIGN KEY (BloodBankId) REFERENCES BloodBank(BloodBankId);**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Appointment (AppointmentId, DonorId, BloodBankId, Date, Time)**

**VALUES (1, 1, 1298, '2023-04-04', '16:00:00');**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Appointment (AppointmentId, DonorId, BloodBankId, Date, Time)**

**VALUES (4, 3, 1271, '2023-02-14', '09:00:00'),**

**(5, 4, 1269, '2022-12-22', '16:15:00'),**

**(6, 5, 1287, '2022-11-21', '12:00:00'),**

**(7, 6, 1273, '2023-01-07', '10:45:00'),**

**(8, 7, 1271, '2023-03-25', '13:00:00'),**

**(9, 8, 1292, '2022-10-01', '15:30:00'),**

**(10, 9, 1301, '2023-2-07', '8:45:00'),**

**(11, 10, 1299, '2023-04-02', '10:15:00');**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from Appointment;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**delete from Appointment**

**where AppointmentID = 1;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Appointment (AppointmentId, DonorId, RecipientId, BloodBankId, Date, Time)**

**SELECT 2, 2, -999, BloodBankId, '2023-04-05', '13:00:00'**

**FROM BloodBank**

**WHERE BloodBankId = '1297'**

**LIMIT 1;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**SELECT constraint\_name**

**FROM information\_schema.table\_constraints**

**WHERE table\_name = 'Appointment'**

**AND constraint\_type = 'FOREIGN KEY';**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from Donor;**

**## After appointment scheduling the Donor can now donot the blood at the respective Blood Bank and the data for the blood sample would be inserted in BloodSample table.**

**## Insert Queries provided below.**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO BloodSample (SampleId, DonorId, BloodBankId, CollectionDate, ExpirationDate, BloodType, Quantity)**

**VALUES (1, 1, 1298, '2023-04-04', '2023-07-03', 'B+', 1);**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO BloodSample (SampleId, DonorId, BloodBankId, CollectionDate, ExpirationDate, BloodType, Quantity)**

**VALUES (2, 2, 1297, '2023-03-31', '2023-06-30', 'A+', 2);**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO BloodSample (SampleId, DonorId, BloodBankId, CollectionDate, ExpirationDate, BloodType, Quantity)**

**VALUES (3, 3, 1271, '2023-03-31', '2023-06-30', 'A+', 2);**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO BloodSample (DonorId, BloodBankId, CollectionDate, ExpirationDate, BloodType, Quantity)**

**SELECT A.DonorId, A.BloodBankId, A.Date as CollectionDate, DATE\_ADD(A.Date, INTERVAL 180 DAY) AS ExpirationDate, B.BloodType, 1 AS Quantity**

**FROM Appointment A**

**INNER JOIN**

**Donor B**

**ON A.DonorId = B.DonorId**

**where A.DonorId > 3;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from BloodSample;**

**## After the data has been added in the BloodSample table the Invertory table is updated.**

**# ---------Blood tranfusion/receiving process--------**

**## Initially the recipeint would have to create and a check in the inventory if the required blood type is**

**## avaiable in the particular bank**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from Recipient;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Recipient (RecipientId, Name, Contact, Email, RequiredBloodType, DOB, Gender, Address)**

**VALUES (1, 'Ani Chatterji', 9998765381, 'anichat@gmail.com', 'B+', '1998-01-21', 'Male', 'Baner, Pune, Maharashtra, India');**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Recipient (RecipientId, Name, Contact, Email, RequiredBloodType, DOB, Gender, Address)**

**VALUES (2, 'Sarfaraz', 9998765413, 'sarfaraz@gmail.com', 'A+', '1998-09-14', 'Male', 'Baner, Pune, Maharashtra, India');**

**## Inventory view**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**create view ViewInventory as**

**select I.BloodBankId,B.Name,B.Contact,B.State, B.City, I.BloodType, I.Quantity**

**from Inventory I**

**inner join**

**BloodBank B**

**on I.BloodBankId = B.BloodBankId;**

**## Based on the inventory the recipient as to book an appointment at the Blood Bank.**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from Appointment where AppointmentID = 2;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from ViewInventory where BloodBankId = 1297;**

**## After making an appointment an entry to BloodTransfusion would be made with status as Initiated.**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO BloodTransfusion(BloodBankId, RecipientId, SampleId, TransfusionDate, BloodType, TransfusedQuantity, TransfusionStatus)**

**select A.BloodBankId,A.RecipientId,B.SampleId, A.Date, R.RequiredBloodType, 1 as TransfusedQuantity, 'Initiated' as TransfusionStatus**

**from Appointment A**

**inner join**

**Recipient R**

**inner join (select SampleId from BloodSample where BloodBankId = '1297' limit 1) B**

**on A.RecipientId = R.RecipientId**

**where A.RecipientId = 2;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from BloodTransfusion;**

**## Once Blood has been Tranfused the hospital user can update the Sample quatity**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from BloodSample;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**update BloodSample set Quantity = 1**

**where BloodBankId = 1297;**

**## Once Sample has been update then update the Inventory Table.**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from Inventory;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**DELETE FROM Inventory;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**INSERT INTO Inventory (BloodBankId, BloodType, Quantity)**

**select A.BloodBankId, BloodType, sum(Quantity) as Quantity**

**from BloodBank A**

**INNER JOIN**

**BloodSample B**

**on A.BloodBankId = B.BloodBankId**

**group by 1,2;**

**#Section2. Code Authorship : Jerin Easo Thomas - jerithom**

**select \* from ViewInventory;**

**##------- Section 3. Views created------**

**-- Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**CREATE OR REPLACE VIEW INVENTORYVIEW AS**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**SELECT bb.BloodBankId,bb.name,bb.contact,bb.helpline,bb.email**

**,bb.address,bb.state,bb.state,bb.district,bb.city,bb.pincode,bb.website,inv.BloodType,inv.Quantity**

**FROM BloodBank bb**

**join inventory inv**

**on bb.BloodBankId = inv.BloodBankId;**

**-- View to check appointments of Donors**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**CREATE OR REPLACE VIEW DonorAppointmentView AS**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**SELECT don.name,don.contact,don.BloodType,don.gender,app.appointmentDate,app.appointmentTime**

**from Appointment app**

**join Donor don**

**on app.donorId=don.donorId;**

**-- View to check appointments of Recipients**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**CREATE OR REPLACE VIEW DonorAppointmentView AS**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**SELECT rec.name,rec.contact,rec.BloodType,rec.gender,rec.appointmentDate,rec.appointmentTime**

**from Appointment app**

**join Recipients rec**

**on app.recipientId=rec.recipientId;**

**-- Update to be called from Blood Bank Employees while collecting blood samples from Donor.**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**update BloodSample set CollectionDate=curdate(),ExpirationDate=curdate()+180,BloodType=bloodType**

**,HaemoglobinLevel=Hlevel,RBCCount=RBCCnt,WBCCount=WBCCnt,Quantity=BloodQuantityDonated**

**where SampleID=sampleId and DonorId=donorId and bloodBankId=bloodBankId;**

**-- Update to be called when the the blood has been collected from the donor to increase the inventory and show the same to recipients**

**# Section 3. Code Authorship : Aniruddho Swapan Chatterjee - caswapan**

**update Inventory set Quantity=Quantity+BloodQuantityDonated where BloodBankId=bloodBankId;**

**##Online References**

**/\***

**https://www.kaggle.com/datasets/sachinprabhu007/blood-bank-directory-india?resource=download**

**https://www.javatpoint.com/mysql-change-column-type**

**https://www.tutorialspoint.com/mysql/index.htm**

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**https://www.w3schools.com/MySQL/default.asp**

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