**SQL tasks**

**Task 1 : Login #**

//Read in login information

$username = read(“Username”)

$password = read(“Password”)

SELECT \*

FROM USER WHERE USER.Username = $username AND USER.Password = $password;

if(1)

login;

else

print(“Login credentials invalid”);

returnto(login);

**Task 2 : New User Registration #**

// person provides $username, $password, $conf\_password and

//populate dropdown with $type to the form with Doctor/Patient/Administrative personnel

SELECT Username FROM User WHERE Username = $username;

If(1)

Print(“user already exists, choose different username”);

Returnto(new\_user\_registration);

If($password != $password\_conf)

Print(“ passwords do not match, please make sure passwords are the same”);

else

INSERT INTO User(Username, password) VALUES ($username, $password);

//creates new user, if username and password are valid, goes to profile creation page of specified type of user selected from application.

**Task 3 : Profile - PATIENT #**

**//Creation Patient Profile**

// read in $name, $date\_of\_birth, $gender, $address, $homephone, $workphone, $emergency\_contact, $height, $weight, $annual\_income and $allergies

//assume $patientUsername is handled by application

INSERT INTO Patient(PatientUsername, Name, DOB, Gender, Address,WorkPhone, HomePhone, ECPhone, ECName, Height, Weight, AnnualIncome, CardNumber) VALUES ($patientUsername, $name, $date\_of\_birth, $gender, $address, $WorkPhone, $homephone, $contactphone, $emergency\_contact, $height, $weight, $annual\_income, $card Number);

for each $allergies

INSERT INTO Patient\_Allergies(PatientUsername, Allergy) VALUES ($patientUsername,$allergies);

end for

**//View Patient Profile not done**

SELECT \* FROM Patient, Patient Allergies WHERE Patient.PatientUsername = $patientUsername AND Patient\_Allergies.PatientUsername = $patientUsername;

/**/Editing Patient Profile not done**

UPDATE Patient SET Name = $newName , DOB = $newDOB, Gender= $newGender,

Address = newAddress, WorkPhone = newWP, HomePhone = newHp, ECPhone = newCP, ECName = newECN, Height = newHeight, Weight = newWeight, AnnualIncome = newAnnInc

WHERE Patient.PatientUsername = $patientUsername;

**Task 4 : Profile - DOCTOR #**

**//Creation Doctor Profile**

//populate speciality field in application

SELECT Speciality FROM Doctor;

**// read in $License, $nameF, $nameL, $date\_of\_birth, $workPhone, $roomNumber, $homeAddress, $speciality for specific $docUsername**

INSERT INTO Doctor(DocUsername, LicenseNo, FName, LName, DOB, WorkNumber, RoomNo, HomeAddress, Speciality) VALUES ($docUsername, $License, $nameF, $nameL, $date\_of\_birth, $workPhone, $roomNumber, $homeAddress, $Speciality);

**//read in availability info $to, $from, $day for doctor availability (can be multiple entries)**

**for each $availability**

INSERT INTO Doctor Availability(DocUsername, To, Day, From) VALUES ($DocUsername ,$to, $day, $from);

end for

**// Viewing Doctor Profile**

SELECT \* FROM Doctor, Availability WHERE Doctor.DocUsername = $docUsername AND Availability.DocUsername = $docUsername;

**//Editing Doctor Profile**

//assume $docUsername is handled by application

UPDATE Doctor SET LicenseNo = $newLN, FName= $newFN, LName=$newLN, DOB = $newDOB, WorkNumber= $newWN, RoomNo=$newRN, HomeAddress= $newHA, Speciality = $newSpec WHERE Doctor.DocUsername = $docUsername;

for each $availability

UPDATE Doctor Availability SET To = $newTo, Day=$newDay, From=$newFrom WHERE Availability.DocUsername = $docUsername;

end for

**Task 6 : Search Appointment #**

//show view of all the appointments according to the speciality

SELECT Speciality FROM Doctor;

$speciality = read(“Speciality”);

SELECT d.FName, d.LName, d.WorkPhone, d.RoomNo, a.To, a.From, a.Day , AVG(r.Rating) AS Average\_Rating

FROM Doctor d, Doctor\_Availability a , Doctor\_Rating r

WHERE d.Specialty = 'Heart Specialist' AND d.DocUsername = a.DocUsername AND r.DocUsername = d.DocUsername GROUP BY r.DocUsername

SELECT \* FROM AVAIL;

**Task 7: Request Appointment**

//application gets $docUsername, $scheduleTime and $date for requested appointment

INSERT INTO Appointments(DocUsername, PatientUsername, Date, Time)

VALUES ($docUsername, $patientUsername, $scheduleTime, $date);

**Task 8: Order Medication**

//read in $medicineName assuming it takes in the $patientUsername from the profile signed in

SELECT Visit.VisitID, DocUsername, PatientUsername, MedicineName

FROM Visit, Prescription

WHERE Visit.VisitID = Prescription.VisitID

AND PatientUsername = '$PatientUsername'

**//if it returns something then store the DocUsername to a variable**

INSERT INTO Prescription (`VisitID`,`MedicineName`, `Dosage`, `Duration`, ) VALUES (‘$visitID’,’$medicename’,’$dosage’,’$duration’);

**Task 9 :Payment information**

// take in payment information for card after prescription ordering and save it.

// input ( $patientUsername, $cardNum, $cardHolderName, $CVV, $Type, $DOE )

if(card number/name already exists)

print(“card already exists”)

else

INSERT INTO Payment\_Information (CardNumber, CardholdersName,CCV, Type, DOE)

VALUES ($cardNum, $cardHolderName, $CVV, $Type, $DOE);

**Task 9: View Visit History**

// get all visits for current user.

SELECT DOV FROM Visit WHERE Visit.PatientUsername = $patientUsername;

// select $date from visit history for $patientUsername signed in

SELECT VisitID, FName, LName, SystolicPressure, DiastolicPressure

FROM Doctor, Visit

WHERE (PatientUsername=$Username AND Visit.DOV = $date AND

d.DocUsername = v.DocUsername);

SELECT Diagnosis FROM VisitDiagnosis WHERE VisitID = $VisitID;

SELECT MedicineName, Notes, Dosage, Duration FROM Prescription

WHERE VisitID = $VisitID;

**Task 10: Rate Doctor**

// select $doctorName from Visit Table for current $patientUsername

SELECT DocUsername, FName, LName FROM Doctor WHERE Doctor.DocUsername = $doctorName;

$rate = read(“rating”);

if(rating for doctor = Null)

INSERT INTO Doctor Rating(PatientUsername, DocUsername, Rating)

VALUES($patientUsername, $doctorName, $rate);

else

UPDATE Doctor Rating SET Rating = $rate WHERE DocUsername = $doctorName;

**Task 11: View Appointments**

//read $day, $month, $year for current doctor username

**// if($day= null)**

**//by month**

SELECT Date.COUNT(\*) AS NumberofAppointments FROM Appointments WHERE DocUsername=’$Doctor\_Username’ AND MONTH(Date)=’$Month’ AND YEAR(Date)=’$Year’ GROUP BY Date;

**//by date**

if($date = $day, $month, $year)

SELECT Patient.Name, Apointments.Time FROM Patient, Appointments

WHERE Patient.PatientUsername = Appointment.PatientUsername AND Appointments.DocUsername=’$doctorusername’ AND Appointments.Date=’$date’;

**Task 12: Search Patients and Visit History**

**//search for patient with both patient name and home phone**

SELECT Name, HomePhone FROM Patient, Visit WHERE Patient.PatientUsername=Visits.PatientUsername AND Visits.DoctorUsername=’$loggeduser’ AND Patient.Name=’$Name’ AND Patient.HomePhone=’$HomePhone’;

**//search by patient or homephone**

SELECT Name, HomePhone FROM Patient, Visit

WHERE Patient.PatientUsername = Visits.PatientUsername AND Visits.DocUsername = ’$loggeduser’ AND Patient.Name=’$Name’ OR Patient.HomePhone=’$HomePhone’;

**//display dates of visit**

SELECT DOV FROM Visits WHERE PatientUsername=$Patient\_Username;

**//display visit history for selected date**

SELECT VisitID, FName, LName, DiastolicPressure, SystolicPressure FROM Visits, Doctor WHERE PatientUsername=’$PatientUserSelected’ AND DOV= ‘$selectedDateofVisit’ AND Visits.DocUsername = Doctor.DocUsername;

**//display diagnosis**

SELECT Diagnosis FROM VisitDiagnosis WHERE VisitID=$VisitID;

//display medicine name

SELECT MedicineName, Dosage, Duration, Notes FROM Prescription WHERE VIsitID=’$VisitID’;

**Task 13; Record New Visit**

record a VISIT for patient (billing amount = null)

Date = $systemDate

Patient Name = $patientUsername.Name

read(Systolic, Diastolic,

Diagnosis,

Medication prescription)

SELECT COUNT(\*) FROM Visits WHERE DocUsername=’$doctorusername’ AND PatientUsername=’$patientusername’;

INSERT INTO Visits(PatientUsername, DOV, SystolicPressure, DiastolicPressure) VALUES ($patientUsername,$systemDate, $sys, $dia);

INSERT INTO Visit\_Diagnosis(VisitID , Diagnosis) VALUES ($visitID, $Diagnosis) WHERE VisitID=’$VisitID AND Diagnosis=’$diagnosis’;

INSERT INTO Prescription(VisitID, DOV, MedicineName, Duration,Notes, Dosage)VALUES ($vistID, $systemDate, $medName, $duration $notes, $dosage);

**Task 14: Search patient and record visit for surgery**

//take in $patientName as search

SELECT PatientUsername, Name, HomePhone FROM Patient WHERE Patient.Name = $patientName;

read in($procedureName, $CPT, $numAssist,$preOp, $anStart, $surStart,$surEnd, $complications )

INSERT INTO Performs(DocUsername, PatientUsername, CPTCode, SurgeryStart, SuregeryEnd, Complications, NumberAssistants, AnesthesiaStartTime)

VALUES ($doctorUsername, $patientUsername, $CPT, $surStart, $surEnd, $complications, $numAssist, $anStart);

INSERT INTO Suregery PreOP Meds(CPTCode, PreOPMedication) VALUES (‘$CPTCode’, ‘$NameofMedicine’);

**Task 15: Send Messages**

$status = read(“Unread”);

$content = read(“Message contents”);

$time = read(systemTime);

**//Patient To Doctor**

// assume system has $patientUsername from signed in profile

//Select doctor name from All Doctors in database

SELECT FName, LName FROM Doctor;

SELECT DocUsername FROM Doctor WHERE FName=’$FirstName’ AND LName=’$LastName’

INSERT INTO SendsmesageToDoc(DocUsername, PatientUsername, DateTime, Content)

VALUES ($doctorUsername, $patientUsername, $time, $content );

**//Doctor to Doctor**

**//doc sender is the logged in doctor**

SELECT FName, LName FROM Doctor;

SELECT DocUsername FROM Doctor WHERE FName=’$FirstName’ AND LName=’$LastName’;

//select reciever dosctor $docUsername2 to send message to

INSERT INTO CommunicatesWith(DocSender, DocReciever, DateTime, Content )

VALUES ($docUsername, $docUsername2, $time, $content);

**//Doctor to Patient**

SELECT Name, HomePhone FROM Patient;

SELECT PatientUsername FROM Patient WHERE Name=’$Name’ AND HomePhone=’$HomePhone’;

//Patient Reciever is patient selected previously

INSERT INTO SendsMessageToPatient(DocUsername, PatientUsername, DateTime, Content) VALUES (‘$DoctorSender’, ‘$PatientReceiver’, ‘$time’, ‘$Content’)

//inbox for Patient

SELECT Doctor\_Sender AS From, Date\_Time, Content, Status FROM Doctor\_to\_Patient\_Message WHERE Doctor\_to\_Patient\_Message.Patient\_Reciever=’$Patient’ AND Doctor\_to\_Patient\_Message.Doctor\_Sender=’$docuser’

//inbox for Doctor

SELECT Patient\_Sender AS From, Date\_Time, Content, Status FROM Patient, Patient\_to\_Doctor\_Message WHERE Patient\_to\_Doctor\_Message.Doctor\_Reciever =’$docuser’ AND Patient.Patient\_Username= Patient\_to\_Doctor\_Message.Patient\_Sender

UNION ALL

SELECT Doctor.First\_Name as From, Date\_Time, Content, Status FROM Doctor, Doctor\_to\_Doctor\_Message WHERE Doctor\_to\_Doctor\_Message.Doctor\_Reciever=’$docuser’ AND Doctor.Doctor\_Username= Doctor\_to\_Doctor\_Message.Doctor\_Reciever

//display number of unread messages on doctor homepage

CREATE VIEW Messages AS SELECT \* FROM Doctor\_to\_Doctor\_Message WHERE Doctor\_Reciever=’$docuser’ UNION ALL SELECT \* FROM Patient\_to\_Doctor\_Message WHERE Doctor\_Reciever=’$docuser’

SELECT Count(\*) AS Unread\_Messages FROM Messages WHERE Status=’Unread’

//display number of unread messages on patient homepage

SELECT Count(\*) FROM Doctor\_to\_Patient\_Message WHERE Status=’Unread’ AND Doctor\_to\_Patient\_Message.Patient\_Receiver= ‘$patientuser’

//clicking on the message will update the status of the message to ‘Read’

**Billing**

**//for selected patient get $patientUsername**

SELECT PatientUsername, Name, HomePhone FROM Patient WHERE Patient.Name='$Name'

**//retrieve annual income**

SELECT AnnualIncome FROM Patient WHERE PatientUsername='Customer'

**//date of visits**

SELECT DOV, BillingAmount FROM Visit

WHERE PatientUsername= '$patientUsername'

**//surgeries**

SELECT SurgeryType, CostOfSurgery

FROM Surgery,Performs

Where Surgery.CPTCode = Performs.CPTCode

AND Performs.PatientUsername='$patientUsername'

**//total cost**

SELECT SUM(CostOfSurgery)

FROM Surgery,Performs

Where Surgery.CPTCode = Performs.CPTCode

AND Performs.PatientUsername='$patientUsername'

**Task REPORTS**

**a.** **Performance of Doctors by specialty**

//average rating for $specialty (selected from a dropdown)

CREATE VIEW DoctorSpecialtyRatings AS SELECT Doctor.Specialty, AVG(Rating) AS Average\_Specialty\_Rating

FROM Doctor, Doctor\_Rating

WHERE Doctor.DocUsername = Doctor\_Rating.DocUsername

GROUP BY Doctor.Specialty

//number of surgeries per specialty

CREATE VIEW SpecialtySurgeries AS SELECT Doctor.Specialty, Count(\*)

FROM Doctor, Performs

WHERE Doctor.DocUsername = Performs.DocUsername

AND Doctor.Specialty = '$specialty'

**b.** **Surgeries in last 3 months**

**//Summery of the number of procedures**

CREATE VIEW NumberofProcedures AS SELECT SurgeryType, Performs.CPTCode, Count(\*) AS NoOfProcedures

FROM Performs, Surgery, Doctor

WHERE Performs.CPTCode = Surgery.CPTCode

AND Performs.DocUsername = Doctor.DocUsername

AND MONTH(SurgeryStartTime) >= 1

AND Year(SurgeryStartTime) = 2014

Group By Surgery.SurgeryType

**//Summery of the # doctors performing the procedure**

CREATE VIEW DoctorsPerformingThePrecedure AS SELECT SurgeryType, Performs.CPTCode ,Count(\*) AS NoOfDoctorsPerformingTheProcedure

FROM Performs, Surgery, Doctor

WHERE Performs.CPTCode = Surgery.CPTCode

AND Performs.DocUsername = Doctor.DocUsername

AND MONTH(SurgeryStartTime) >= 1

AND Year(SurgeryStartTime) = 2014

Group By Performs.CPTCode

//**Total Billing Summery**

CREATE VIEW TotalBilling AS SELECT SurgeryType, Performs.CPTCode, Count(\*), Surgery.CostOfSurgery\*Count(\*)

FROM Performs, Surgery, Doctor

WHERE Performs.CPTCode = Surgery.CPTCode

AND Performs.DocUsername = Doctor.DocUsername

AND MONTH(SurgeryStartTime) >= 1

AND Year(SurgeryStartTime) = 2014

Group By Surgery.SurgeryType

**c.** **Summary of Patients seen by Doctor**

CREATE VIEW PatientsSeen AS SELECT Doctor.FName,Doctor.LName, Count(\*)

FROM Visit, Doctor

WHERE Visit.DocUsername = Doctor.DocUsername

GROUP BY Visit.DocUsername

**Summary of Prescritions written by Doctor**

SELECT Doctor.FName, Doctor.LName, COUNT(\*)

FROM Prescription, Visit, Doctor

WHERE Prescription.VisitID = Visit.VisitID

AND Visit.DocUsername = Doctor.DocUsername

GROUP BY Visit.DocUsername

**Summary of Total Billing written by Doctor**

CREATE VIEW VisitCost AS SELECT Doctor.FName,Doctor.LName, SUM(BillingAmount) as BA

FROM Visit, Doctor

WHERE Visit.DocUsername = Doctor.DocUsername

GROUP BY Doctor.DocUsername

CREATE VIEW SurgeryCost AS SELECT Doctor.FName, Doctor.LName, SUM(CostOfSurgery) AS SC

FROM Performs, Surgery, Doctor

WHERE Performs.DocUsername = Doctor.DocUsername

AND Performs.CPTCode = Surgery.CPTCode

GROUP BY Doctor.DocUsername

CREATE VIEW TotalCost AS SELECT VisitCost.FName, VisitCost.LName, VisitCost.BA,SurgeryCost.SC,BA+SC AS Sum

From VisitCost,SurgeryCost

Where VisitCost.FName = SurgeryCost.FName

AND VisitCost.LName = SurgeryCost.LName