CREATE VIEW SQ1P1

AS SELECT \*

FROM Person, Patient

WHERE Person.ID = Patient.PersonID;

CREATE VIEW SQ1P2

AS SELECT \*

FROM SQ1P1, Patient\_Medication\_Join

WHERE SQ1P1.personid = Patient\_Medication\_Join.PersonID;

CREATE VIEW SQ1P3

AS SELECT Fname, Lname, SQ1P2.Medication\_Name, Brand

FROM SQ1P2 , Medication

WHERE SQ1P2.Medication\_Name = Medication.Medication\_Name;

DESCRIPTION:

This relational algebra and SQL code show each patient's info is listed with their medications. This code consists of three JOINS between four relations and SELECT operation.

CREATE VIEW SQ2P1

AS SELECT IPID, Name

FROM AcceptedInsurance;

CREATE VIEW SQ2P2

AS SELECT \*

FROM Patient, SQ2P1

WHERE Patient.IPID = SQ2P1.IPID AND SQ2P1.Name = "Omega";

DESCRIPTION:

This relational algebra and SQL code represent patients with insurance from Delta Dental. It consists of one SELECT and one JOINS between two relations.

CREATE VIEW SQ3P1

AS SELECT \*

FROM Appointment, Procedure\_Appointment\_Join

WHERE Appointment.AppointmentID = Procedure\_Appointment\_Join.AppointmentID;

CREATE VIEW SQ3P2

AS SELECT \*

FROM Procedure, SQ3P1

WHERE SQ3P1.procedureid = Procedure.procedureid;

CREATE VIEW SQ3P3

AS SELECT \*

FROM SQ3P2, Procedure\_MedicalEmployee\_Join

WHERE SQ3P2.ProcedureID = Procedure\_MedicalEmployee\_Join.ProcedureID;

CREATE VIEW SQ3P4

AS SELECT \*

FROM SQ3P3, MedicalEmployee

WHERE SQ3P3.ProfessionalsID = MedicalEmployee.PersonID;

CREATE VIEW SQ3P5

AS SELECT \*

FROM SQ3P4, Person

WHERE SQ3P4.personid = Person.ID;

CREATE VIEW SQ3P6

AS SELECT ProcedurePreformed, Date\_

FROM SQ3P5

WHERE Lname = "Smilow";

DESCRIPTION:

This relational algebra and SQL code give doctor Smilow performed procedures list each with their dates. The code contains one SELECT and five JOINS between six relations.

CREATE VIEW SQ4P1

AS SELECT \*

FROM Invoice

WHERE DateIssued > '2022/06/30' AND Amount > 600;

CREATE VIEW SQ5P1

AS SELECT \*

FROM Person, Patient

WHERE Patient.PersonID = Person.ID;

CREATE VIEW SQ5P2

AS SELECT \*

FROM SQ5P1, Appointment

WHERE SQ5P1.personid = Appointment.patientid;

CREATE VIEW SQ5P3

AS SELECT \*

FROM SQ5P2, Invoice

WHERE SQ5P2.IID = Invoice.IID;

CREATE VIEW SQ5P4

AS SELECT ID, Fname, Lname, DateIssued, Amount

FROM SQ5P3

WHERE DateIssued BETWEEN '2021/01/01' AND '2021/12/31';

DESCRIPTION:

This relational algebra and SQL code show a list of patient contact information with past due invoices. Past due invoices are the ones that are defined as over 30 days old with a balance over $10. The code contains one SELECT, one PROJECT three JOINS between four relations.

CREATE VIEW SQ6P1

AS SELECT \*

FROM Person, MedicalEmployee

WHERE MedicalEmployee.PersonID = Person.ID AND MedicalEmployee.position = 'Dentist';

CREATE VIEW SQ6P2

AS SELECT \*

FROM SQ6P1, Procedure\_MedicalEmployee\_Join

WHERE SQ6P1.PersonID = Procedure\_MedicalEmployee\_Join.professionalsid;

CREATE VIEW SQ6P3

AS SELECT \*, COUNT(DISTINCT Procedure.procedureid) as Number

FROM SQ6P2, Procedure

WHERE SQ6P2.procedureid = Procedure.procedureid;

CREATE VIEW SQ6P4

AS SELECT Fname, Lname

FROM SQ6P3

GROUP BY SQ6P3.procedureId

HAVING Number < 5;

DESCRIPTION:

This relational algebra and SQL code present the patients who lead the most revenue in the past year. The SQL code contains one SELECT, one PROJECT three JOINS between four relations.

CREATE VIEW SQ7P1

AS SELECT \*

FROM Appointment, Procedure\_Appointment\_Join

WHERE Appointment.appointmentid = Procedure\_Appointment\_Join.appointmentid;

CREATE VIEW SQ7P2

AS SELECT \*

FROM Procedure, SQ7P1

WHERE SQ7P1.ProcedureID = Procedure.ProcedureID;

CREATE VIEW SQ7P3

AS SELECT \*

FROM SQ7P2, Invoice

WHERE SQ7P2.IID = Invoice.IID;

CREATE VIEW SQ7P4

AS SELECT ProcedureID, ProcedurePreformed, MAX(Amount )

FROM SQ7P3;

DESCRIPTION:

This SQL code and relational algebra show doctors list who performed less than five procedures this year. The SQL code contains one SELECT and three JOINS between four relations.

CREATE VIEW SQ8P1

AS SELECT \*

FROM Payment, PaymentMethod

WHERE Payment.PID = PaymentMethod.PID;

CREATE VIEW SQ8P2

AS SELECT \*

FROM SQ8P1, Invoice

WHERE SQ8P1.PID = Invoice.PID;

CREATE VIEW SQ8P3

AS SELECT Payment\_type, Count(distinct PID), Sum(Amount)

FROM SQ8P2;

DESCRIPTION:

This SQL code and relational algebra represent procedures with highest pay, their prices, and the total number of them preformed. It contains one SELECT and two JOINS between three relations.

CREATE VIEW SQ9P1

AS SELECT \*

FROM Patient, AcceptedInsurance

WHERE Patient.IPID = AcceptedInsurance.IPID;

CREATE VIEW SQ9P2

AS SELECT SQ9P1.Name, COUNT(distinct SQ9P1.IPID) as Number

FROM SQ9P1;

CREATE VIEW SQ9P3

AS SELECT SQ9P2.Name, COUNT(Number)

FROM SQ9P2;

DESCRIPTION:

This SQL code and relational algebra find the patients' most popular insurance plan name. It contains two functions and one JOINS between two relations.