I-Stop Database

Due Date: April 13, 2016
Cutoff Date: April 18, 2016

Lateness: Projects will not be accepted after the cutoff date. Points will be deducted for late projects. Five points will be deducted each calendar day submitted after the due date.

Background

Effective March 27, 2016 all prescriptions written in New York State must be submitted electronically to the patient's pharmacy. Doctors will no longer be allowed to create paper prescriptions. Physicians who fail to comply with this mandate will be fined.

The Internet System for Tracking over Prescribing (I-Stop) law was created to reduce opioid abuse, prescription fraud and mistakes caused by illegible physician handwriting.

Objective

- Create a database to allow physicians to comply with I-Stop prescriptions
- Create reports

Database requirements

Include at least the following in your I-Stop prescription database:

- Prescribers are identified by their name, organization there are affiliated, New York State prescriber license, address and phone number. For instance, a prescriber can be a doctor or nurse practitioner and is authorized to write prescriptions.
- Prescribers can be affiliated with many organizations and have multiple phone numbers.
- Organizations have a name, address, city, state and zip code. For instance, an organization can be a hospital, clinic or nursing home.
- Pharmacies have a name, address, city, state, zip code and phone. For instance, CVS, Rite Aid or Walgreens.
- Patients have a name, address, city, state, zip code, phone and email.
- Patients need to select one pharmacy for prescribers to send prescriptions. Only pharmacies in the database can be selected.
- To minimize possible interaction with drugs, patients need to identify all of their allergies. A patient can have none, one or several allergies.
- Drugs have a generic name, brand name and dosage. For example, Acetaminophen (generic), Tylenol (brand) and 500 mg (dosage).
- Prescriptions are written by a prescriber and includes the patient name, date and drug name, dosage and number of refills. The prescription is sent electronically directly to the pharmacy requested by the patient. A unique prescription is required for each drug assigned by the physician.

Data

You must enter at least the following information into your database

- 20 drugs
- 20 patients
- 20 prescribers
- 10 organizations
- 30 prescriptions

Search

Generate SQL to answer the queries below.

Replace placeholders referenced in the questions below with your own values. For instance, replace [patient name], [time], [organization], [city], [provider], etc. with your own values.

Create descriptive column labels for all output. All output must display at least one row.

Generate SQL commends to answer the following queries.

1. Identify the most popular medication prescribed in [city] in the last [time]. Display the drug name and number prescribed. Display one row for each drug. Order alphabetically by drug name.
2. Identify the medication history of [patient name]. Display the patient name, physician, drug, date of prescription and dosage. Order chronologically by date.
3. Identify prescriptions affiliated with [organization] in the last [time]. Display the doctor name, organization, drug name, patient name and date. Order by doctor name, drug and patient name.
4. A doctor creates a new prescription for [patient name]. What SQL operations are required to create a new prescription.
5. Identify patients with an allergy to the medication prescribed. Display the patient name, drug, doctor name and doctor phone number.
6. Identify the prescriber who assigned the most [drug name] in the last [time]. Display the prescriber, license number, drug name and number of prescriptions. Display one row for each prescriber, license number and drug name. Display the prescriber and drug with the highest number first.
7. Identify patients with no allergies on file. Display the patient name and email. Used a nested select to answer this question.
8. Identify patients with misspelled names – where the name on a new prescription doesn't match the name on a previously assigned prescription. Use other fields to identify this patient in the database. Display the patient name and address.
9. Identify pharmacies near [patient name]. Display the pharmacy name, address, city, state, zip code and phone number. Use a nested select to answer this question.
10. Identify patients without a prescription in the last [time]. Display patient name. Use a nested select to answer this question.
11. Use the SQL DESCRIBE operation to list the table structure for all tables.

Other requirements

- Output for all questions must include at least one row displayed.
- Normalize your tables to third normal form.
- All multi value columns must be saved to their own table.
- Identify and create primary keys for each table.
- Create foreign keys to enforce referential integrity. For instance, you must have foreign keys with references to ***at least*** the following:
    a. Prescriber organization
    b. Patient pharmacy
    c. Prescription patient, prescriber, drug and pharmacy.
- Include the question, SQL command to answer the question and output from the SQL command.
- Include the SQL commands to create tables, insert data, alter column names and alter column types.
- Create descriptive column labels for all output.
- Clearly label each question and answer.
- Use appropriate terminology.

Formatting

- Your project must include the question and SQL operations to answer the question
- The column output should be displayed in a `non-proportional font such as courier`. This will display the columns vertically straight.
- All columns in your search must display on one line. Don't wrap columns to two lines.
- Your project must be typed.
- All pages of your output must include your name, class, date and project number in the header of each page.
- The first page of your project must include your name, the last four digits of your student id, class, the submission date and the project number.

Submission

- All pages of your project must be combined into one MS Word or one Adobe PDF file. Files not submitted in this format will be rejected.
- An electronic copy of your project will be submitted to Blackboard on the due date. The file name will be in the format: [last name] [first name] Project2.docx or [last name] [first name] Project2.pdf. For example, *Smith Sally Project2.pdf.* Submit one MS Word or one Adobe PDF file. Files not submitted in this format will be rejected.
- Do not submit hardcopies of the project.
- No projects will be accepted if left under my office door, my office mailbox or delivered to any other member of the department.
- Projects will not be accepted after the cutoff date.
- Late points will be deducted for projects submitted after the due date. Five points will be deducted each calendar day submitted after the due date.

Academic Integrity

Projects and examinations must represent your own work. Group projects and exams are not permitted. Although you are encouraged to ask other students for information, you should neither copy another student's project nor permit another student to see your work. You can be asked to perform specific procedures and operations in the presence of the instructor. A student who submits a project that is too similar to another student's work will receive a ZERO for the project. Additional penalties may be imposed. Students found guilty of any form of academic dishonesty such as plagiarism or cheating on an exam or computer project are subject to discipline, including, but not limited to, failure in the course and suspension or dismissal from the College. You are required to comply with the CUNY Policy on Academic Integrity available at

http://www.cuny.edu/about/administration/offices/sa/policies/AcademicIntegrityPolicywithoutmemo.pdf