Homework 3
CVS Pharmacy Database

Due Date: May 21, 2018
Cutoff Date: May 21, 2018
Lateness: Homework assignments will not be accepted after the cutoff date.

Objective

- Create a database for a CVS pharmacy
- Create reports
- Manage concurrency
- Manage security

Database requirements

Include at least the following in your CVS database

- Customers
- Staff
- Stores
- Drugs
- Transactions
- Include at least one sequence number to create unique values.
- Normalize your tables to third normal form.
- Staff are assigned to one store
- The product price can be different at each CVS store

You must enter at least the following data into your database

- At least 5 customers
- At least 2 purchases for each customer
- At least 10 drugs
- At least 2 stores

Query

For the following questions:

- Generate SQL commands to answer the following queries.
- Replace underlined items with values of your own choosing.
- Create data to insure all questions generate output.
- Format all output. For instance, all numbers will display with commas and create descriptive labels for all columns.
- Disable the auto commit flag at the top of the window before performing all operations.
- Be very descriptive when explaining your results. For instance, use appropriate terminology, print screens and SQL.
- You might find it useful to create a backup of your table before implementing operations that delete or modify your data. To create a backup table, enter CREATE TABLE <NEWTABLE> AS SELECT * FROM <ORIGINALTABLE>; COMMIT; Then you can rename a table using the RENAME TABLE commit. Disable the auto commit flag at the top of the window before performing this operation.

1. Increase the price of acetaminophen by10% for only stores in NY. Identify the SQL required to implement. Display the price before and after the price increase.
2. Identify drugs that have not been purchased this month. Display the drug name. Use a nested select to answer this question.
3. Reassign employee Joe Smith from the Kew Gardens store to the Flushing store. Identify the SQL required to implement.
4. The drug acetaminophen will no longer be sold at any store. Identify the SQL required to implement.
5. In one SQL window, change the address of CVS employee Joe Smith. Don't commit. In another SQL window, change the first name for CVS employee Joe Smith. Don't commit. Explain your results. Resolve the problem. Disable the auto commit flag at the top of the window before performing this operation.
6. In one SQL window, delete all products. Don't commit. In another SQL window increase the price of all products by 10%. Explain your results. Resolve the problem.
7. In one SQL window, change the salary for employee Jose Lebron. Don't commit. In another SQL window, change the last name of employee Jose Lebron Don't commit. Quit both Oracle sessions. Login to Oracle and display all information for the employee Jose Lebron. Explain your results. Disable the auto commit flag at the top of the windows before performing this operation.
8. Use the SQL DESCRIBE operation to display the structure for all tables.
9. Display the Oracle version by entering

```
select *
from product_component_version;
```

Extra Credit Question (optional):

10. Utilize Oracle SQL security roles to limit access to view customer information. This security role will only be able to display and not add, delete or change customer information. Identify the SQL operations to implement and demonstrate the functionality of the security roles.
11. Utilize Oracle SQL security roles to allow users t purchase a product at a CVS store, but prevent the deletion or changes to transactions. Identify the SQL operations to implement and demonstrate the functionality of the security roles.

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.
- Include at least one sequence number to create unique values.
- Identify and create primary keys for each table.
- Create foreign keys to enforce referential integrity.
- 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 homework 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 homework must be typed.
- All pages of your output must include your name, class, date and homework number in the header of each page.
- The first page of your homework must include your name, the last four digits of your student id, class, the submission date and the homework number.

Submission

- All pages of your homework 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 homework will be submitted to Blackboard on the due date. The file name will be in the format: [last name] [first name] HW3.docx or [last name] [first name] HW3.pdf. For example, *Smith Sally HW3.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 homework.
- No assignments will be accepted if left under my office door, my office mailbox or delivered to any other member of the department.
- Assignments will not be accepted after the cutoff date.
- Late points will be deducted for assignments submitted after the due date. Five points will be deducted each calendar day submitted after the due date.

Academic Integrity

Projects, homework assignments and examinations must represent your own work. Group projects, assignments and exams are not permitted. Although you are encouraged to ask other students for information, you should neither copy another student's project or assignment 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 or assignment that is too similar to another student's work will receive a ZERO for the project or assignment. 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.