

Project Four (optional)

NYC Department of Education Vaccine and Consent Tracking Database – Part 2

Timeline

- Due Date: December 20, 2021
- Cutoff Date: December 20, 2021
- No projects will be accepted after the cutoff date.

Objective

- Modify the NYC Department of Education Vaccine and Consent Tracking Database created in project 3 to include project 4 requirements.
- Create reports
- Manage concurrency
- Manage security

Database requirements

Include all the NYC Department of Education Vaccine and Consent Tracking database requirements from project 3. In addition, add the following:

- Security
 - Selected users of the database are restricted from accessing student address, date of birth, age and email. Other users of the database have the ability to view all columns in the student table.
 - Student consent forms can be viewed, but not deleted.
 - Selected NYC Department of Education staff can display all vaccine status columns.
 - Selected NYC Department of Education staff can change the vaccine status columns. Other users can only view and not change these columns.
- Include at least two sequence numbers to create unique values.

Questions

- Disable the auto commit flag before performing all operations.
 - Replace underlined items with values of your own choosing. For instance, replace the underlined terms last year with your own date range.
 - Format all output. For instance, all numbers will display with commas, dollar values will display with a \$ prefix and create descriptive labels for all columns.
 - Be very descriptive explaining your results. For instance, use appropriate terminology, print screens and SQL
1. Selected users of the database are restricted from accessing student address, date of birth, age and email. Other users of the database have the ability to view all columns in the student table. Create SQL to implement. Login with the new security enabled accounts and demonstrate your implementation will only display the requested columns.

2. Student consent forms can be viewed, but not deleted. Create SQL to implement. Login with the new security enabled accounts and demonstrate your implementation will view only and not delete consent forms.
3. Selected NYC Department of Education staff can display all vaccine status columns. Other users can only view a subset of these columns. Create SQL to implement. Login with the new security enabled accounts and demonstrate your implementation will only display the requested columns.
4. Selected NYC Department of Education staff can change the vaccine status fields. Other users can only view and not change these columns. Login with the new security enabled accounts and demonstrate your implementation will allow editing of selected fields for only staff.
5. The guardians for student Joe Smith provided consent to perform weekly testing 4 times and revoked consent 3 times. Identify the SQL to implement.
6. In one SQL window, delete all consent forms provided in the last month at 1 school. Don't commit. In another SQL window, add 5 new consent forms. Don't commit. In each SQL window, identify the number of consent forms. Explain your results. Show all SQL to perform these operations. Demonstrate the functionality of your SQL by displaying the before and after results.
7. In one SQL window, delete all staff at 1 school. Don't commit. In another SQL window, delete staff at all schools. Don't commit. Explain your results. Resolve the problem. Create a backup of your table before implementing. 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. Show all SQL to perform these operations. Demonstrate the functionality of your SQL by displaying the before and after results.
8. In one SQL window, change the last name for the student Bo Li. Don't commit. In another SQL window, change the address of student Bo Li (use the same name as above). Don't commit. Quit both Oracle sessions. Login to Oracle again and display all columns for the customer Bo Li. Explain your results. Disable the auto commit flag at the top of the windows before performing this operation. Show all SQL to perform these operations. Demonstrate the functionality of your SQL by displaying the before and after results.
9. Use the SQL DESCRIBE operation to display the structure for all tables.
10. Display the version of Oracle. Enter:

```
SELECT *
FROM v$version;
```

Additional Design Requirements

- Include all SQL commands to create your database and answer the questions including create tables, select, update, insert data, alter column names and alter column types.
- Create your database using Oracle 18c. Projects created with other databases will be rejected and not graded. Utilizing other databases requires prior instructor approval.
- Normalize your database to third normal form.
- Output for all questions must include at least one row displayed.
- Identify and create primary keys for all tables.
- Create foreign keys to enforce referential integrity.
- Include the question, SQL command to answer the question and output from the SQL command.
- Create descriptive column labels for all output. For instance, don't display a column label named *count(*)*

Formatting

- 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 the following in the header: name, class, date and project number.
- The first page of your project must include your name, the last four digits of your student id, class, submission date and the project number.

Submission

- Review the grading rubric on Blackboard to identify how the project will be evaluated and graded.
- Projects are due on the due date. No projects will be accepted after the cutoff date.
- An electronic copy of your project will be submitted to Blackboard on or before the due date. The file name uploaded to Blackboard will be in the format: [last name] [first name] Project4.docx. For example, *Smith Sally Project4.docx*.
- Submit one MS Word file. For instance, don't submit separate files for create tables, insert and output.
- No projects will be accepted if sent to my email, left in my office mailbox or delivered to any other member of the department.
- If you submit multiple versions of the project, the last submitted project will be graded. Unless you receive prior approval, a project submitted before the due date and re-submitted after the due date is late.
- Unless you receive prior approval, projects submitted after the due date is late.
- Projects not in compliance with the submission requirements will be rejected and not graded.

Academic Integrity

Projects and examinations must represent your own work. Group exams and projects are not permitted. You should neither copy another student's project or exam nor permit another student to see your work. You can be asked to perform specific procedures and operations in the presence of the instructor. Academic Dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension, and expulsion as provided at <https://www.cuny.edu/about/administration/offices/legal-affairs/policies-procedures/academic-integrity-policy/>.