Project Three
NYC Department of Education Vaccine and Consent Tracking Database

Important Dates

- Due Date: December 13, 2021
- Cutoff Date: December 17, 2021
- Projects are submitted on or before the due date.
- No projects will be accepted after the cutoff date.
- 5 points will be deducted for each calendar day a project is submitted after the due date.

Objective

- Create a database to assist the NYC Department of Education to track student COVID-19 testing consent and vaccine status
- Create SQL, searches and output using Oracle SQL

Database Requirements

Your design must include at least the following requirements:

- Students
  - Identify the student first name, last name, address and assigned school.
  - Students can be assigned to more than 1 guardian. Identify the guardian name, phone and email.
- School
  - Identify the school name, address, borough and district
- Staff
  - Identify the staff first, staff last, address and title
  - Staff can be assigned to more than 1 school. Identify start and end date at each school.
- Consent
  - Track if a consent form was received to authorize COVID-19 weekly testing of unvaccinated students. Consent can be authorized and consent can be revoked at any time. Consent can be authorized and revoked many times.
  - Identify the student, all consent received and consent revoked dates.
- Vaccine Status
  - Track the vaccine status of staff and students.
  - Identify the vaccine name and brand, vaccine received first dose and vaccine received second dose.

Data

You will create:

- At least 10 students
- At least 10 schools
- At least 10 staff

Questions

- Create SQL to answer the following queries.
- Replace underlined items with values of your own choosing.
- Create data to ensure all questions generate output.
- Format all output. For instance, all numbers will display with commas, percent values will display with a %, dollar values will display with a $ prefix and create descriptive labels for all columns.

1. Identify consent status of students enrolled on November 20 in PS 105. Display the student name and consent status. Order the output by student last name and first name.
2. Identify student consent status by schools in Brooklyn. Display 5 columns: borough, school, total students enrolled the school, number of students with consent and percent of students with consent. Display the school with the highest percent first.
3. Identify staff vaccine status by schools in 5 zip codes. Display 5 columns: borough, school, total staff assigned to the school, number of staff who received the vaccine and percent of staff who received the vaccine. Display the school with the highest percent vaccine first.
4. Identify student vaccine status by school. Display 5 columns: borough, school, total students assigned to the school, number of students who received the vaccine and percent of students who received the vaccine. Display the school with the highest percent vaccine first.
5. Identify students who have not returned the consent form from PS 105 to receive COVID-19 weekly testing. Display the school and student name. Order the output by school and student. Use a nested select to answer this question.
6. Identify students from Brooklyn schools without an assigned guardian. Display the school and student name. Order the output by school and student. Use a nested select to answer this question.
7. Identify staff who have not received a vaccine. Display the assigned school, staff name and address. Order the output the school and staff name. Use a nested select to answer this question.
8. Identify students with more than 1 guardian. Display the student name and number of guardians. Only display the students with more than 1 guardian.
9. Except for 1 assistant principal, all staff assigned to PS 105 received the COVID vaccine. Identify the SQL to implement.
10. Assistant principal Bo Li was reassigned from PS 105 to PS 135. Identify the SQL to implement.

11. Student Ben Lam is no longer a student at any school in the NYC Department of Education. Identify the SQL to implement.
12. Identify the number of active students currently enrolled at all schools. Display the number.
13. Identify the number of active non-teaching administrative staff assigned to schools. Display the number.
14. Display the structure of ALL tables using SQL Describe.
15. Display the version of Oracle. Enter:

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

Additional Design Requirements

- Normalize your database to third normal form.
- 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 version 18c. Prior approval is required to use a different database. Projects created with other databases will be rejected and not graded.
- All multi-value columns must be saved to their own table.
- 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

- Be prepared to discuss your database design, SQL and output individually with the instructor.
- 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. Five points will be deducted for each calendar day, including weekends a project is submitted after the due 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] Project3.docx. For example, *Smith Sally Project3.docx.*
- Submit one MS Word. 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/.