



## CSCI 2020 – Database Fundamentals

### *Project Deliverable 1*

#### Deliverable Information

<b>Points Possible:</b>	25
<b>Date Due:</b>	Monday, February 21st, 2022 by 11:59pm Late submissions accepted. See late submission policy in the syllabus.
<b>Submission Details:</b>	<ul style="list-style-type: none"><li>• Submit to D2L Project Deliverable 1 Drop Box Folder</li><li>• See the format below for additional details.</li></ul>
<b>Filename Format:</b>	LastnameFirstinitial_Del1.sql (Ex: RezwanaT_Del1.sql)

#### Details

In this deliverable, you will copy a database to your own schema and then utilize a DB you've never seen and use it to manipulate data.

#### Format

Note that steps 1 and 2 below will not be graded. They are simply steps that will prepare your schema for the project deliverable.

#### 1. Copy Database

Download the file, createTables.sql, from D2L. In this file is the SQL necessary to create a database complete with tables populated with data. Using SQL Developer, connect to your database. From the SQL Developer menu, select File → Open and navigate to where you downloaded createTables.sql and open that file. You should see the SQL code in your SQL editor. Click the Run Script button. After this has run through completion, view the log. The only errors you should see in the log are DROP TABLE failures. This can be caused by a couple of things. It is possible you didn't have the table to start with. You also could have created the table and misspelled the table name when you created it. Do not be alarmed if you get these failure messages. You should see where the 10 tables were successfully created as well as the tables altered after adding primary keys and other constraints. You should also see where the indexes are successfully created.

#### 2. Verify Data

Explore the new database and ensure the number of records for each table match the following row counts.

Order	Table	Records	Order	Table	Records
1	STUDENT	10,369	6	ACTIVITY	77,726
2	SCHOOL	7,160	7	SCHOOL_APPLY	39,488
3	GUARDIAN	10,514	8	SCHOOL_ATTEND	9,568
4	EXAM	3	9	STUDENT_GUARDIAN	13,600
5	VOLUNTEER_WORK	43,331	10	STUDENT_EXAM	23,329

#### **4. Modify Data (10 Points)**

For each of the following provide (1) the SQL statement(s) used, (2) the result of executing the statement(s) (number of rows affected or failure), (3) and why the statement(s) did not succeed (if failure occurred). It is possible that some of these tasks result in an error. You should report the error and add any required SQL statement(s) to fix the error(s). Comment each statement in the same format we've been using in the labs so I can easily find your answers. Failure to comment will result in a grade reduced by up to 20%. **Save your file as LastnameFirstinitial\_Del1.sql**

1. There was an error when inserting Veronica Pathak's name (student ID 1182). The student's name should be Veronica Pathak-Smith. Update the student's record accordingly.
2. SSAT test scores (exam ID 0) for students who took the exam on 01-15-2022 have been received. Add the following scores to each student:
  - a. Carl Liebl (student ID 140) – 924
  - b. Nora Crease (student ID 464) – 1232
  - c. Pauletta Difusco (student ID 2844) – 1015
3. Noah Tso (student ID 10086) is no longer with Academy Prep (AP). Remove the student from the student table.
4. AP (Academy Prep) has received notification that on 12-20-2020 Antony Podaras (student ID 1007) transferred from the University of Miami (school ID 12106) to the University of South Florida (school ID 12460).
  - a. Update Antony's school attendance for the University of Miami to have an end date of 12-20-2020 and an end reason of Transfer.
  - b. Add a new school attendance for Antony for the University of South Florida with a start date of 01-15-2021.
5. Carlie Goldsmith (student ID 8992) has received a new legal guardian.
  - a. Enter Margaret Yuters (guardian ID: 22583; Address: 1382 N. 5<sup>th</sup> Ave. Sarasota, FL 34234; Phone: (941) 341-1961) as a new guardian. (Note: only numbers should be entered for phone (no spaces, parentheses, dashes, etc.).)
  - b. Associate Margaret as being Carlie's new Legal Guardian. (Remove Talisha Katie (previous guardian; guardian ID: 9914) as Carlie's legal guardian, but do not remove Talisha from the database.)

#### **5. Select Data (20 Points)**

Continuing within your SQL file, for each of the following provide (1) the SQL statement(s) used and (2) the number of results returned. Note: column aliases do not work in WHERE clauses. This is because the SELECT portion of the SQL statement is performed after the WHERE portion.

1. Display the exam name, average score, and the total number of students that attempted each exam. Only exam attempts taken after January 2008 should be included in the result set. Display the exam with the highest number of attempts first. **(3 points)**
2. Display the student name and number of school applications that were accepted for each student. The name should be displayed in "last, first" form. In addition, only current 8<sup>th</sup> graders who had two or fewer acceptances

should be shown. Students with the most acceptances should be displayed first. Students with the same number of acceptances should be listed A-Z by last name and then first name. **(3 points)**

3. Display the college name and the number of volunteer assignments students from each college have completed. Only include colleges that have students who completed 10 or more volunteer assignments. Display the colleges with the highest number of volunteer assignments first. **(3 points)**
4. Display each student's first and last name, a description of his or her volunteer work, and the number of days he or she worked on his or her volunteer project. Lowercase the description of volunteer work. Include students that worked on the project for 30-90 days and are in the 5<sup>th</sup> grade. Display those students who worked the longest on their projects first. **(3 points)**
5. Obtain a list of all current students and their foster mother or foster father who do not live in the same city. Display names in "last, first" format. In addition, use the column headings of "student\_name" and "guardian\_name". List students by last and then first name. **(3 points)**
6. Display the student ID, first name, last name and average score of students that have taken the SAT test 4 or more times. Display the student with the highest average score first. **(3 points)**
7. Display the name, state and number of acceptances for colleges that have accepted students (students enrolled) after December 2009. Display the schools with the greatest number of acceptances first. **(2 points)**

## Submission

Ensure that your SQL file contains the standard header comments and in-line comments as stated above, or a 20% penalty will be applied (i.e., 5 points).

Submit your file to D2L into the Deliverable 1 drop box folder prior to the due date/time. **Late submissions permitted with late submission policy applied.**