University of the Philippines Open University

CMSC206

Assignment 2
SQL

Coordinator:	Thomas Laurent
Due date:	Saturday 31st October, 2020
Total Number of Pages:	2

1 Exercise: SQL

1.1 Problem description

In this exercise we will implement a database keeping track of employees in a company. The database will contain the following information and reflect the following facts:

- About the employees: their name, email, phone number
- About the company's departments: their name
- An employee can work for multiple departments, they have a role in each department
- Employees can manage other employees. A manager can manage multiple employees and an employee can be managed by multiple managers.

1.2 Tasks

1. Create a database containing four tables: employee, department, worksfordep, manages and that reflects the facts given above.

   In your report, briefly describe what mechanisms you used to represent the different facts and information about the company. Submit a file named create.sql along your report containing the SQL instructions necessary to create the tables.

2. Populate your database with the following entities and facts:

   Employees:

   - Deneen Willmon; deneen.willmon@gmail.com; 0908 787 8889
   - Lashay Dann; lashay.dann@gmail.com; 0804 197 1660
   - Kallie Jolliff; kallie@ymail.com; 0917 128 7291
   - Starla Priebe; starlap@yahoo.com; 0650 338 2292
   - Jannette Basnight; jannette012@hotmail.com; 0778 490 2817

   Departments:

   - Accounting
   - Maintenance
   - Development

   Facts:

   - Deneen and Kallie work for the Maintenance department
   - Deneen works as a engineer and Kallie as a technician
   - Deneen is Kallie's manager
   - Starla works for the Development department as a coder
   - Deneen is Starla's manager
   - Lashay works for the Accounting department as head accountant
   - Jannette works for the Development department but her title is unknown

In your report, briefly describe how you represented the above information. Submit a file named populate.sql along your report containing the SQL instructions necessary to populate the database.

3. Write queries to obtain the following information:

   (a) List of employees and the department they work for

   (b) List of employees and their manager (show the employee even if they do not have a manager)

   (c) List of employees having an "a" in their name

   In your report, briefly describe how you built the queries. Submit a file named queries.sql along your report containing the SQL queries that give the above information.

4. Update your database to account for the following facts:

   (a) The *manages* table is now called *isManagedBy*

   (b) Deneed has married (congrats!) and has taken a new name: Crawley

   (c) People will soon be quitting the firm or retiring so we want to add one piece of information per employee: whether they are a current employee (true) or not (false). All employees are active for the moment.

   (d) Janette has retired

   In your report, briefly describe how you translated these different facts into SQL to update the DB. Submit a file named update.sql along your report containing the SQL instructions necessary to populate the database.

2 Submission instructions

Submit your work as a PDF report named Firstname_Lastname_Assignment_2.pdf (e.g. Thomas_Laurent_Assignment_2.pdf) along with the sql files as a zip archive named Firstname_Lastname_Assignment_2.zip on Moodle before October 31st 23:59.

Make sure that your report is clear and make clear which part of the report answers what question (i.e. use the question numbers).

Submissions are personal. No late submissions accepted.