CET1031 - Databases and Data Modelling - Practicum 01

Topics Covered: CRUD statements, Joins and Subqueries.

Learning Objectives:

- Familiarizing with porting databases between systems.
- Applying SQL statements to query or manipulate data from a database.

Deliverables:

- A zip file of all completed `.sql` files using the given filenames as defined in this document, the naming format of the zip file is `CET1031_P01_<Your_Name>.zip`. e.g. `CET1031_P01_John_Doe.zip`.
- Note that a non-loadable submission will result in a zero

Background

You are to make a database for a payroll company that handles the payroll of several banks. The payroll company has already digitized the bank's employees records and came up with the textual schema shown below (primary keys are underlined):

employee(ID, name, street, city)
works(ID, name, salary)
company(name, city)
manages(ID, manager_id)

Tasks

Important notes

1. All `.sql` files **must be loadable repeatedly** via the command prompt.
2. All tasks are to be answered using **multiple** `sql` **files**. Use the format `task_<x>.sql` to name your `.sql` files, where `<x>` refers to the task number.
3. We are using MariaDB therefore your SQL constructs **must conform** to the SQL constructs supported by MariaDB.
4. All tasks are to be done using Joins, Subqueries or a combination of both.

5 tasks should have 5 sql files.

Your task is to produce the `.sql` files that implements the following tasks.

Task 1

similar to exercise question number 5.

Construct the DDL statements for the given textual schema, use the given `populate_employee.sql` file to help with choosing the right domain for the attributes. Include any foreign key constraints that might be appropriate. Add the clauses `ON DELETE CASCADE ON UPDATE CASCADE` to all foreign key constraints.

just using CREATE statements to create according to the textual schema

Task 2

Find the ID and name of each employee who lives in the same city as the location of the company for which the employee works.

Task 3

sum up the payroll of each individual bank then select the lowest

Find the company name and its payroll amount that has the lowest payroll.

all of the tasks must be done using joins and subqueries or either one.

Task 4

Give all managers of the “Small Bank of Singapore” a 10 percent raise.

Task 5

Delete all managers from the “First Bank of Singapore” who are earning more than SGD10k.

For the maximum allocation of marks, refer to the table below.

Description	Marks (%)
Successful repeated loading & implementation of the DDL statements (task 1).	30
Successful repeated loading of the `populate_employee.sql` file into the tables created by the DDL statements from task 1.	5
Correct resultset for task 2	15
Correct resultset for task 3	15
Correctly update the records for task 4	15
Correctly delete the records for task 5	15
Proper naming of attributes and using consistent SQL conventions.	5