



University of the Philippines Open University

CMSC206

Assignment 3 MongoDB

Coordinator:	Thomas Laurent
Due date:	Saturday 12 th December, 2020
Total Number of Pages:	2

1 Exercise: MongoDB

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.

The database will contain the following 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

1.2 Tasks

1. Create a database representing the above problem. Your database can contain as many collections as you think necessary.

In your report, briefly describe what mechanisms you used to represent the different facts and information about the company, e.g. justifying why you chose embedding or referencing. Submit a file named `create.js` along your report containing the mongo shell instructions necessary to create and populate your database.

2. Write queries to obtain the following information:

- (a) List of employees and the department(s) 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.js` along your report containing the mongo shell queries that give the above information.

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

- (a) Deneen has married (congrats!) and has taken a new name: Crawley
- (b) 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.
- (c) Jannette has retired

In your report, briefly describe how you translated these different facts into the database and mongo shell code if an update is required. Submit a file named `update.js` along your report containing the mongo shell code necessary to update the database.

2 Submission instructions

Submit your work as a PDF report named `Firstname.Lastname.Assignment.3.pdf` (e.g. `Thomas.Laurent.Assignment.3.pdf`) along with the js files as a zip archive named `Firstname.Lastname.Assignment.3.zip` on Moodle before December 12st 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.