IAB206 – 2019 S2 – Assessment 2

DUE DATE: SUNDAY, SEPTEMBER 15, 2019 @ 11:59 PM (23:59)

WEIGHT - 30%

In this assessment, you will be working in groups of 2-3 people (preferably within your registered workshop) to complete two tasks:

- Task 1: You will create a database for the scenario described under Task 1 below. Subsequent to reading the scenario, please follow the instructions and complete all the questions to the best of your abilities.
- Task 2: You will be asked to create your own scenario and develop queries for it. You are expected to submit the queries and paste the screenshot of the output of both tasks in your report. You may use Mongo shell or Compass, unless stated explicitly.

TASK 1

Scenario

Consider this to be your final semester with you graduating soon. An obvious step after graduation would be to look and apply for jobs. Before graduating, you decide to use the skills you learned in IAB206 to prepare a social network database using MongoDB. The objective is to develop a database of 20 close professional contacts you had developed during your study at QUT as a means to approach the right person with the right skill for a job, or request for reference. Your LinkedIn profile (if you have one) is a good resource, but every time you visit a person's profile, that person is notified. This is something that you do not want, especially when you will be looking at the profiles of people on a frequent basis to decide whom to contact and for what. Hence, the idea of your own private, flexible database.

CREATE

Question 1. Create a database with a justifiable name in MongoDB Atlas Cluster.

Question 2. Think of a document structure you would like to have for each contact. You need to have a minimum of 10 fields. We are providing five in the assessment, the other five (or more) need to be added based on a logical argument. We have also provided a suggested structure that can serve as guidance.

Out of 10 fields:

1. A minimum of two fields should be of array data type, and
2. A minimum of one field should have an embedded document.

The five fields you are required to have are as follows:

Field	**Description**	**Type**
Skills	Captures the skills possessed by the contact	Array of String
Organisation	Captures all the organisations the contact has worked in	Document Type
Years of Experience	Captures the years of experience the contact has had in industry	Integer
Meeting Place	Captures the place where you met the contact and other details (event, date, time etc)	Document Type
Overall Impression	Your overall impression of the contact in terms of his likelihood of helping you and the area he is working in	String

Possible document structure follows. Please note: If you wish to learn MongoDB, it is not recommended that you use the suggested structure but come up with your own.

Name: String
Meeting Place: Document Type
Age: Integer
Organisation: Nested Document [Name, Position (array)]
Years of experience: Integer
Skills: Array of String
Contact Number: String
Contact Email: Document type [Personal, Work]
LinkedIn Profile: String
Overall Impression: String

Please provide a document structure as a solution to this question.

Question 3. Enter 20 documents with field and values, based on the structure identified in Question 2. Please note that **two documents should not have** all the fields identified in Question 2.

*Before you populate the values in your database, it would be a good idea to carefully go through the remaining questions to note some of the mandatory values you need to have in your database.

READ (Use MongoDB Shell- You are expected to paste screenshots of the queries and results in the report. Please refer to submission details for further information)

Question 4. Write a query that looks for a contact with current organisation as some university and the position as lecturer.

Question 5. Write a query extracting the name of an individual who has at least one of these skills: 'modern data management', 'process mining', and 'automation'.

Question 6. Write a query extracting the name of an individual whose overall impression is 'good' and years of experience is greater than or equal to 10.

Question 7. Create a scenario and mention the data you will need for it. Based on that write your own read query. *Please note that for this question each member in the group needs to have their own individual query. In other words, this question will be marked on an individual basis. In the report when you paste the query and the output, please put the name of the individual group member beside the query s/he created.

UPDATE (Use MongoDB Shell)

Question 8. Write a query to update the email address of a contact that you have in your database.

Question 9. Write a query to increment the years of experience of a contact with current organisation of your choice by 2.

Question 10. Write a query to update the meeting place, date, and time of a contact of your choice.

Question 11. Update the value of skill of a contact of your choice from ‘databases’ to ‘modern databases’.

Question 12. Find a contact with the current organisation as ‘QUT’ and update the skills to add a new skill: ‘automation’.

Question 13. Create a scenario and mention the data you will need for it. Based on this scenario you have come up with, write your own update query.

DELETE

Question 14. Delete a document (i.e. details of a contact) of your choice using a specific condition.

Question 15. Delete all documents relating to an organisation of your choice. *It is recommended that you perform an export of your collection before performing such operations. Refer to: https://docs.mongodb.com/compass/master/import-export

TASK 2

Question 16. Task 1 may have given you an understanding of the application of MongoDB in the scenario presented in this assessment. Based on this understanding, in this task, you are expected to create your own scenario where you believe MongoDB can be of use. For the scenario you have developed, implement 3 create, 3 read, 3 update, and 1 delete queries. Your document is expected to have a minimum of 5 fields. Please note added complexity will not result in additional marks.

SUBMISSION DETAILS

Please submit a zip file containing:

(i) A brief technical report containing the screenshots and explanations (where required) for Task 1 and Task 2. Please note you need to have the query and the screenshot of the document(s) before and after executing the query. Before and after may not be applicable for read queries. Please paste screenshot of the query and the document after executing the read query. In the report, please put the name of the name of individual group member for Question 7, as this question is marked individually.

(ii) The JSON script you created originally for Task 1 and Task 2.

(iii) The final JSON script ***after*** all the queries have been implemented for Task 1 and Task 2.

Only **one submission** per team is to be submitted and it is due **Sunday 15th September 2019**. You will see a link to submit your assignment in the assessment section of the IAB206 page in Blackboard by Wednesday 11th September. Note that the submission deadline set in Blackboard is a hard deadline and the submission link will be disabled by the system once the deadline is reached.

(i) Each team should register their team details on blackboard. The assignment file name should be IAB206_Team#_A1.zip. (Replace ## with your team number. Example: IAB206_Team5_A1.zip)

(ii) Each submission must contain a declaration, signed by all group members, stating that they have viewed the final version of the assignment that is to be submitted and that it is their original work.

(iii) Each submission must contain a completed **the peer-evaluation of group work form**.

ASSESSMENT RULES

Group formation: Assessment tasks are to be done in a group **of 2-3 students**. It is expected that students create groups based on their own contacts. The same marking criteria will apply irrespective of the size of the groups. All group members will be asked to evaluate the contribution of each team member and submit their evaluation form as part of the assignment submission.

Group disputes: Students will be responsible for resolving their own group disputes in the first instance. Students may decide to expel a group member if this person has not actively contributed to the assignment deliverables for two consecutive weeks (evidence must be provided if this is the case, e.g. by showing that the student has been unreachable via email). Written notice must be sent to the student to be expelled 3 days in advance, using the student's QUT email. The student can only be expelled from a group if the student does not respond to this written notice with a valid justification within 3 days, or if they accept to be expelled.

Late Submissions/Extensions: According to QUT policies, submissions past the deadline will NOT be marked, and will thus attract a mark of 0. Please refer to relevant QUT policies for the procedure to request extensions.

Reviews: We will not be remarking assignments. All assignments will have feedback explaining the reasons for the marks allocated. If appropriate feedback is not given, the student should contact their marker. If there is a unique situation where a student feels that s/he has not been marked fairly, then contact the unit coordinator. The student will be asked to provide the reasons for a marking review.

Academic honesty: Any action or practice on the student's part which would defeat the purposes of assessment is regarded as academic dishonesty. The penalties for academic dishonesty are provided in the Student Rules. The assignment may be checked using plagiarism tools.

Getting feedback: The teaching team will be available to answer specific questions about the assignment, but not to pre-mark assignments. Teaching staff will NOT read report drafts and review detailed models prior to the submission of the assignment. Feedback to an assignment will be provided in written form when the marker returns the marked assignment back to the students. Students are welcome to discuss any queries about the feedback they will receive.