Department	Computer Science and Information Technology
Course	ITE 410: Web Programming
Semester	Spring 2021
Activity	Assignment #3
Instructor	Dr. Murad Al-Rajab
Due Date	Monday May 31, 2021

Notes:
- The assignment must be submitted into the designated link in Blackboard. You are to submit 3 files (**One Word file** which will hold the following naming format: **StudentID_FirstName_LastName_QuestionNumber**) + 2 **NodeJS Files (**with the following naming format: **StudentID_FirstName_LastName_NodJSQ2PartNo)**
- All submissions ONLY through Blackboard. No assignments will be accepted by email or by MS Teams.
- All assignments must be within due date and NO late assignments will be accepted.

➢ QUESTION 01)

Assume a collection called "Employees" that holds data about all Employees in Abu Dhabi University. The database used is MongoDB. All the documents in the Employees collection look like this:

```
{
  "_id" : 5ee1f895b3ac80fa7ce5f336,
  "lName" : "Rashed",
  "fName " : "Rakan",
  "hire_date" : "March 07, 2015",
  "salary" : 23000,
  "department" : "Information Technology"
}
```

Where lName represents the employee's last name, fName represents the employee's first name, hiredate is the joining data to the university, and department is the department where each employee works inside Abu Dhabi University. The total number of documents (records) inserted into the "Employees" collection is 1325 document each for an employee.

a) Write a query which will retrieve the documents for all employees earning more than or equal Dhs 20,000.
b) Write a query which will retrieve the documents for all employees whose last name starts with letter 'M'.
c) Write an INSERT statement to add a new document to the employee's collection using sample data values of your choice.
d) The University management had decided to promote the employee named "Reem Khalifa" and increment her salary to Dhs 35,000. Write a proper statement to change the salary.
e) Write a statement to delete the employee whose last name is "Omar" from the Employees collection.
f) Write a query to verify all transactions and display all the documents in the Employees collection in a structured readable format.
g) Write a MongoDB statement which will return the number of documents in the collection.

➢ **QUESTION 02**

    a) Write a Nodejs application using MongoBD to create a new database of a name of your choice, then use this database to create the Employees collection mentioned in Question 1 above. (You need to submit a Nodejs file as solution for this step).

    b) Based on the Employees collection created in step (a), extend the Nodejs in step (a) to write a code that will insert 3 different Employees (documents) into the collection with the fields of lname, fname, hire_date, salary, department, and contact details, which is an array composed of phone number and email address. The primary key for the customer collections should be generated automatically by the MongoDB. (You need to submit a Nodejs file as solution for this step). You can insert the following documents:

lName	fName	Hire_Date	Salary	Department	Contact
Rashed	Rakan	March 07, 2015	23,000	Information Technology	97150123456, r.rakan@abc.com
Ali	Ahmad	April 03, 2020	15,000	Marketing	97150678910, a.ahmad@abc.com
Khalifa	Reem	December 07, 2019	35,000	Human Resource	97152448899, r.khalifa@abc.com

    c) Write the a Nodejs code to verify that the employee's collection was created and the related documents were inserted. The code shall display all the documents in the collection.

    d) Write a Nodejs lines of code which will query (retrieve) and display the documents for all employees earning more than or equal Dhs 20,000.

    e) Write a Nodejs lines of code to display only the employee's fname, and contact details.

    f) Write a Nodejs lines of code to query and display all customers whose last name start with the letter 'M'.

    g) The Company management had decided to promote the employee named "Reem Khalifa" and increment her salary to Dhs 45,000. Write a Nodejs lines of code to change (update) her salary.

    h) Write a Nodejs lines of code to delete the employee whose last name is "Ali" from the Employees collection.

    i) Write a NodeJs lines of code to verify that the Employee Ali was deleted from the collection.

    j) Write a Nodejs lines of code which will return the number of documents in the collection.

Note: *for Question 2, parts c – j; you are to write the Nodejs lines of code that will do the operation on a word document, and no need for the complete code.*

Good Luck!