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Lab 8

Objectives

- Understand the document database model.
- Manipulate a set of documents in a database.
- Understand how MongoDB deals with the flexibility of the document data model.

Prerequisites

- Download the following sample file [contacts.json](#).

Lab Work

I. Data Manipulation (60 minutes)

- Note 1: MongoDB is free and you can download and run it on your machine. However, for simplicity, this lab will only work with the simple web interface that is provided for testing.
- Note 2: For all the questions below, write down your query and the answer to any questions. Include all the queries that you ran along with the answers in a README file.

1. Open MongoDB on the web by navigating to [<https://mws.mongodb.com/?version=4.2>]
2. (Q1) Insert the sample JSON file into a new collection named contacts.
3. (Q2) Retrieve all the users sorted by name.
4. (Q3) List only the `id` and `name` s sorted in reverse alphabetical order by `name` (Z-to-A).
5. (Q4) Is the comparison of the attribute `name` case-sensitive? Show how you try this with the previous query and include your answer.
6. (Q5) Repeat Q3 above but do not show the `_id` field.
7. (Q6) Insert the following document to the collection.

```
{Name: {First: "David", Last: "Bark"}}
```

Does MongoDB accept this document while the `name` field has a different type than other records?

8. Rerun Q3, which lists the records sorted by `name` . (Q7) Where do you expect the new record to be located in the sort order? Verify the answer and explain.
9. Insert the following document into the users collection.

```
{Name: ["David", "Bark"]}
```

10. Repeat Q3. (Q8) Where do you expect the new document to appear in the sort order. Verify your answer and explain after running the query.
11. Repeat Q3 again with all the objects that you inserted, but this time sort the name in *ascending* order. (Q9) Where do you expect the last inserted record, {Name: ["David", "Bark"]} to appear this time? Does it appear in the same position relative to the other records? Explain why or why not.
12. (Q10) Build an index on the Name field for the users collection. Is MongoDB able to build the index on that field with the different value types stored in the Name field?

II. Submission (15 minutes)

1. Send only a README file that contains both the queries that you ran and the answers to the questions above.
2. Do not forget to include your information as you do in other labs.
3. No separate code is required for this lab.