# MongoDB. Home Task 1

## Install MongoDB

Follow installation guidelines for your OS at [https://docs.mongodb.com/manual/installation/#mongodb-community-edition](https://docs.mongodb.com/manual/installation/%23mongodb-community-edition)

Note: you can skip installing MongoDB as a service; you can install MongoDB Compass

## Import Restaurants Collection

Follow these steps to import restaurants collection to you local data base:

1. Save restaurants.json on your PC
2. Run local instance of MongoDB
   * Assuming you want to use default data directory and port for the instance run mongod without any parameters

mongod

1. Use mongoimport (it’s in MongoDB installation folder) to import the collection to the database
   * Assuming you run local MongoDB on the default port the following command should create “restaurants” collection in “frontcamp” database

mongoimport --db frontcamp --collection restaurants --file <path to restaurants.json>

1. Verify that collection was correctly imported
   * Assuming local MongoDB instance uses the default port, run mongo without any parameters

mongo

* + Switch to frontcamp database

use frontcamp

* + Verify that the number of the documents in the restaurants collection is 25359

db.restaurants.count()

Note: for tasks 3 and 4 create a txt or doc report for your mentor and include both query and its result for every subtask, e.g.:

2.1 Query: db.restaurants.find({ borough: "Brooklyn" }).count()

Result: 6086

Note: please perform all tasks in the specified order, because the results may depend on the previous operations

## Querying Restaurants Collection

Note: please use mongo shell for this task

Have a look at a document from the collection to get familiar with the schema:

db.restaurants.findOne()

Answer the following questions and include both query and the result (if applicable) into your report:

1. How many “Chinese” (cuisine) restaurants are in “Queens” (borough)?
2. What is the \_id of the restaurant which has the grade with the highest ever score?
3. Add a grade { grade: "A", score: 7, date: ISODate() } to every restaurant in “Manhattan” (borough).
4. What are the names of the restaurants which have a grade at index 8 with score less then 7? Use projection to include only names without \_id.
5. What are \_id and borough of “Seafood” (cuisine) restaurants which received at least one “B” grade in period from 2014-02-01 to 2014-03-01? Use projection to include only \_id and borough.

## Indexing Restaurants Collection

Note: you may use MongoDB Compass for this task if you want to

Create the following indexes:

1. Create an index which will be used by this query and provide proof (from explain() or Compass UI) that the index is indeed used by the winning plan:

db.restaurants.find({ name: "Glorious Food" })

1. Drop index from task 4.1
2. Create an index to make this query **covered** and provide proof (from explain() or Compass UI) that it is indeed covered:

db.restaurants.find({ restaurant\_id: "41098650" }, { \_id: 0, borough: 1 })

1. Create a **partial** index on cuisine field which will be used only when filtering on borough equal to “Staten Island”:

db.restaurants.find({ borough: "Staten Island", cuisine: "American" }) – uses index

db.restaurants.find({ borough: "Staten Island", name: "Bagel Land" }) – does not use index

db.restaurants.find({ borough: "Queens", cuisine: "Pizza" }) – does not use index

1. Create an index to make query from task 3.4 **covered** and provide proof (from explain() or Compass UI) that it is indeed covered

## Evaluation Criteria

1. MongoDB has been installed and the collection has been imported
2. Task 3 has been completed with mistakes, task 4 has not been completed
3. Task 3 and 4 have been completed with mistakes
4. Either task 3 or 4 has been completed or has minor issues
5. Both tasks have been completed or have minor issues