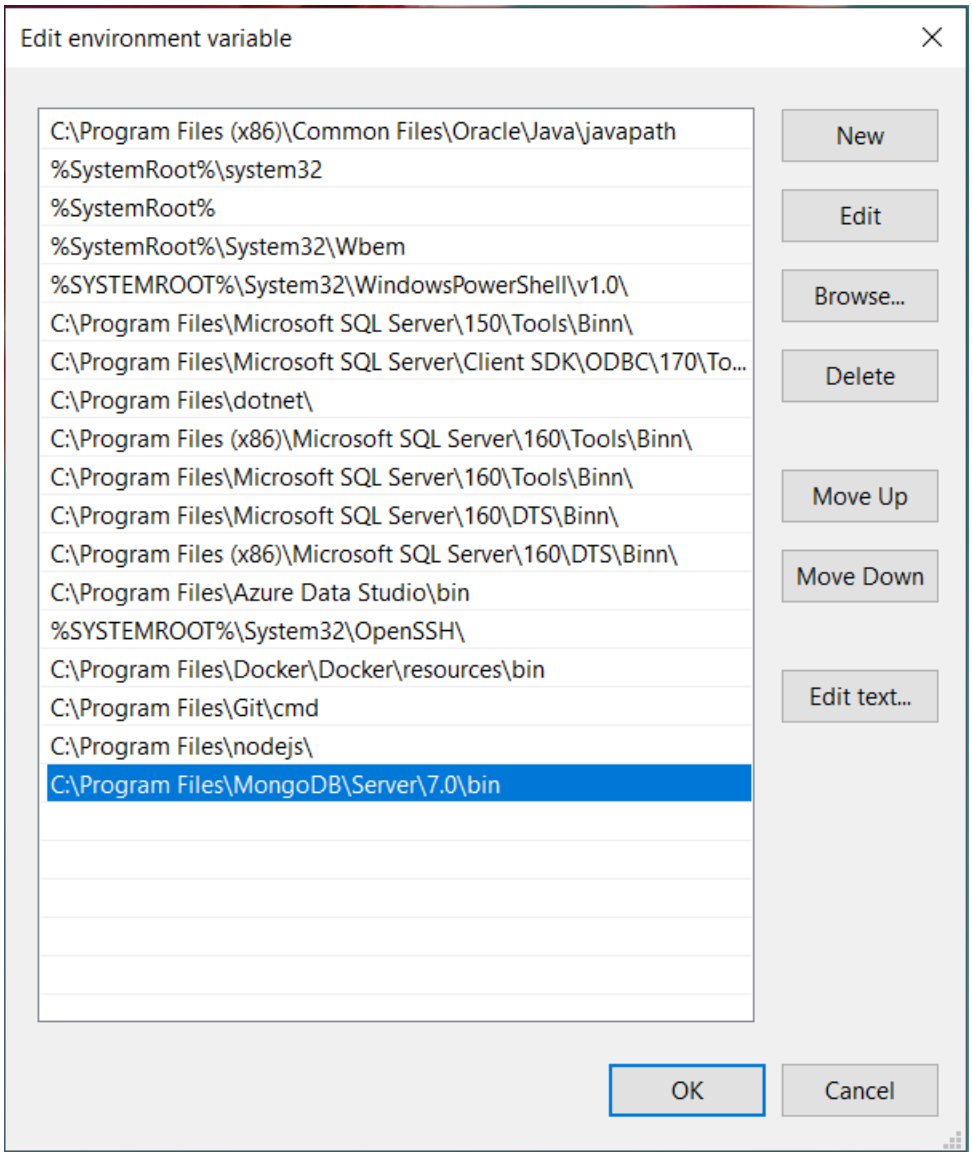
Name : Manar Fuqha , 202010224 **AdvancedDb_Assignment_2**

First we need to do that :



And then open mongo shell :

```
Microsoft Windows [Version 10.0.19045.4291]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Manar>mongosh
Current Mongosh Log ID: 6641cc1671209a33c446b798
Connecting to:          mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.2.5
Using MongoDB:          7.0.9
Using Mongosh:          2.2.5

For mongosh info see: https://docs.mongodb.com/mongodb-shell/


To help improve our products, anonymous usage data is collected and sent to MongoDB periodically (https://www.mongodb.com/legal/privacy-policy).
You can opt-out by running the disableTelemetry() command.

------
   The server generated these startup warnings when booting
   2024-05-13T10:44:19.580+03:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
------
```

Name : Manar Fuqha , 202010224 **AdvancedDb_Assignment_2**

To show the database :

```
test> show dbs;
admin   40.00 KiB
config  12.00 KiB
local   40.00 KiB
```

1. **Create a new database called: your firstName-familyName**

```
test> show dbs;
admin   40.00 KiB
config  12.00 KiB
local   40.00 KiB
test> use manar-fuqha
switched to db manar-fuqha
manar-fuqha>
```

2. Switch to the DB created in step 1

```
test> use manar-fuqha
switched to db manar-fuqha
manar-fuqha>
```

3. **Create a new collection called: your firstName-collection**

```
manar-fuqha> db.createCollection("manarCollection");
{ ok: 1 }
manar-fuqha> show dbs;
admin        40.00 KiB
config       60.00 KiB
local        40.00 KiB
manar-fuqha   8.00 KiB
manar-fuqha>
```

4. **Write query to make sure that the collection was created**

```
manar-fuqha> show collections
manarCollection
```

5. **Add 5 persons to the collection; each one of them has the following properties: name, university name, registration year, student ID, and average (value from 0 to 100), one of these entries must has your info**

```
manar-fuqha> db.manarCollection.insertMany([ { name: "Manar Fuqha" , universityName: "PTUK" , registerationYear: 2020 , studentID: 202010224, average:
87 },{name: "Ali" , universityName: "PTUK" , registerationYear: 2021 , studentID: 202156320 , average: 76 } , { name: "tala" , universityName : "ALNaja
h" , registerationYear: 2019 , studentID:201945963 , average:80 } , {name: "Ahmad" , universityName: "PZU" , registerationYear: 2016 , studentID: 20162
5231 , average:94 } , {name: "huda" , universityName: "PTUK" , registerationYear: 2022 , studentID: 202210456 , average: 90 }])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('6641d6de91d696911146b799'),
    '1': ObjectId('6641d6de91d696911146b79a'),
    '2': ObjectId('6641d6de91d696911146b79b'),
    '3': ObjectId('6641d6de91d696911146b79c'),
    '4': ObjectId('6641d6de91d696911146b79d')
  }
}
manar-fuqha>
```

6. **write a query to return all persons in the collection**

```
manar-fuqha> db.manarCollection.find()
[
  {
    _id: ObjectId('6641d6de91d696911146b799'),
    name: 'Manar Fuqha',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010224,
    average: 87
  },
  {
    _id: ObjectId('6641d6de91d696911146b79a'),
    name: 'Ali',
    universityName: 'PTUK',
    registerationYear: 2021,
    studentID: 202156320,
    average: 76
  },
  {
    _id: ObjectId('6641d6de91d696911146b79b'),
    name: 'tala',
    universityName: 'ALNajah',
    registerationYear: 2019,
    studentID: 201945963,
    average: 80
  },
  {
    _id: ObjectId('6641d6de91d696911146b79c'),
    name: 'Ahmad',
    universityName: 'PZU',
    registerationYear: 2016,
    studentID: 201625231,
    average: 94
  },
  {
    _id: ObjectId('6641d6de91d696911146b79d'),
    name: 'huda',
    universityName: 'PTUK',
    registerationYear: 2022,
    studentID: 202210456,
    average: 90
  }
]
manar-fuqha>
```

7. **write a query that return only 3 persons**

```
manar-fuqha> db.manarCollection.find().limit(3);
[
  {
    _id: ObjectId('6641d6de91d696911146b799'),
    name: 'Manar Fuqha',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010224,
    average: 87
  },
  {
    _id: ObjectId('6641d6de91d696911146b79a'),
    name: 'Ali',
    universityName: 'PTUK',
    registerationYear: 2021,
    studentID: 202156320,
    average: 76
  },
  {
    _id: ObjectId('6641d6de91d696911146b79b'),
    name: 'tala',
    universityName: 'ALNajah',
    registerationYear: 2019,
    studentID: 201945963,
    average: 80
  }
]
manar-fuqha>
```

8. **write a query to return the top 3 persons based on their average**

```
manar-fuqha> db.manarCollection.find().sort({average: -1}).limit(3);
[
  {
    _id: ObjectId('6641d6de91d696911146b79c'),
    name: 'Ahmad',
    universityName: 'PZU',
    registerationYear: 2016,
    studentID: 201625231,
    average: 94
  },
  {
    _id: ObjectId('6641d6de91d696911146b79d'),
    name: 'huda',
    universityName: 'PTUK',
    registerationYear: 2022,
    studentID: 202210456,
    average: 90
  },
  {
    _id: ObjectId('6641d6de91d696911146b799'),
    name: 'Manar Fuqha',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010224,
    average: 87
  }
]
manar-fuqha>
```

9. **write a query that return persons whose average is above 89 and who registered in university after 2021**

```
manar-fuqha> db.manarCollection.find({$and: [{average: {$gt: 89}} , {registerationYear:{$gt: 2021}}]});
[
  {
    _id: ObjectId('6641d6de91d696911146b79d'),
    name: 'huda',
    universityName: 'PTUK',
    registerationYear: 2022,
    studentID: 202210456,
    average: 90
  }
]
manar-fuqha>
```

10.update the person that has your info (based on your student Id) , change average instead from 100 scale to 4 by dividing it by 25

```
manar-fuqha> db.manarCollection.updateMany( { studentID: 202010224} , [{ $set: { average: { $divide: ["$average" , 25]}}}])
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
manar-fuqha>
```

```
manar-fuqha> db.manarCollection.find()
[
  {
    _id: ObjectId('6641d6de91d696911146b799'),
    name: 'Manar Fuqha',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010224,
    average: 3.48
  },
```