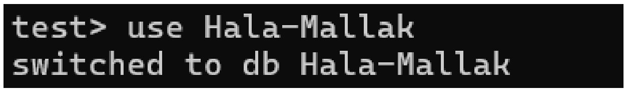
MongoDB Assignment_2

Hala Mallak

My video : HalaMongoDB.mp4 - Google Drive

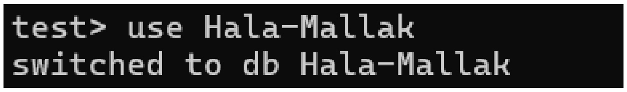
For each of the following, you need to write a query and also show the output (result returned from the shell) — submit a pdf file , after preparing the queries, run them one by one and record your work (short video, max 5 minutes, no need for audio)- submit the video.

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



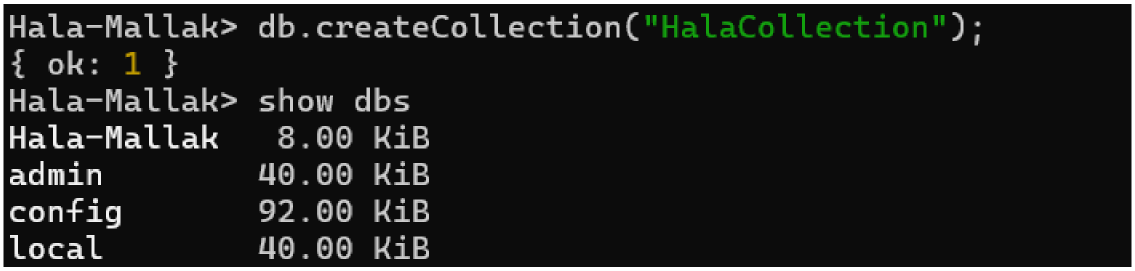
```
test> use Hala-Mallak
switched to db Hala-Mallak
```

2. Switch to the DB created in step 1



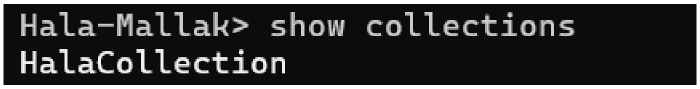
```
test> use Hala-Mallak
switched to db Hala-Mallak
```

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



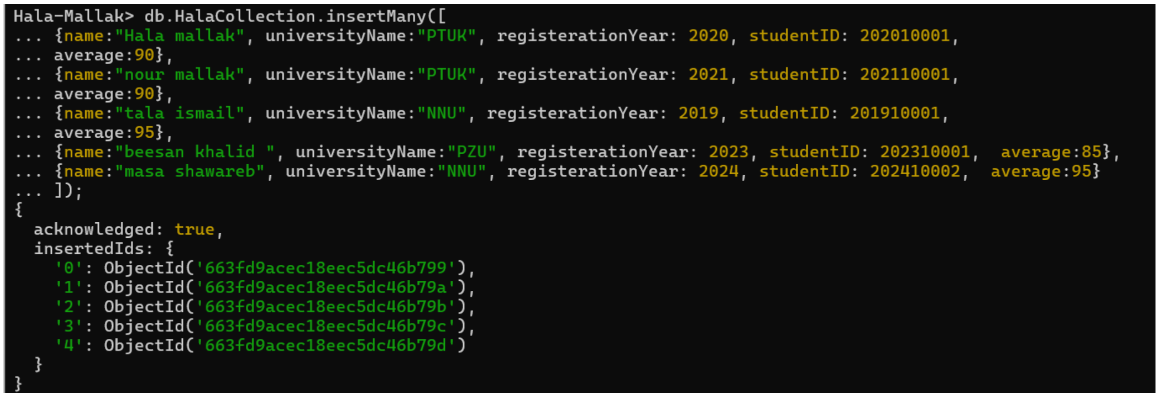
```
Hala-Mallak> db.createCollection("HalaCollection");
{ ok: 1 }
Hala-Mallak> show dbs
Hala-Mallak   8.00 KiB
admin        40.00 KiB
config       92.00 KiB
local        40.00 KiB
```

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



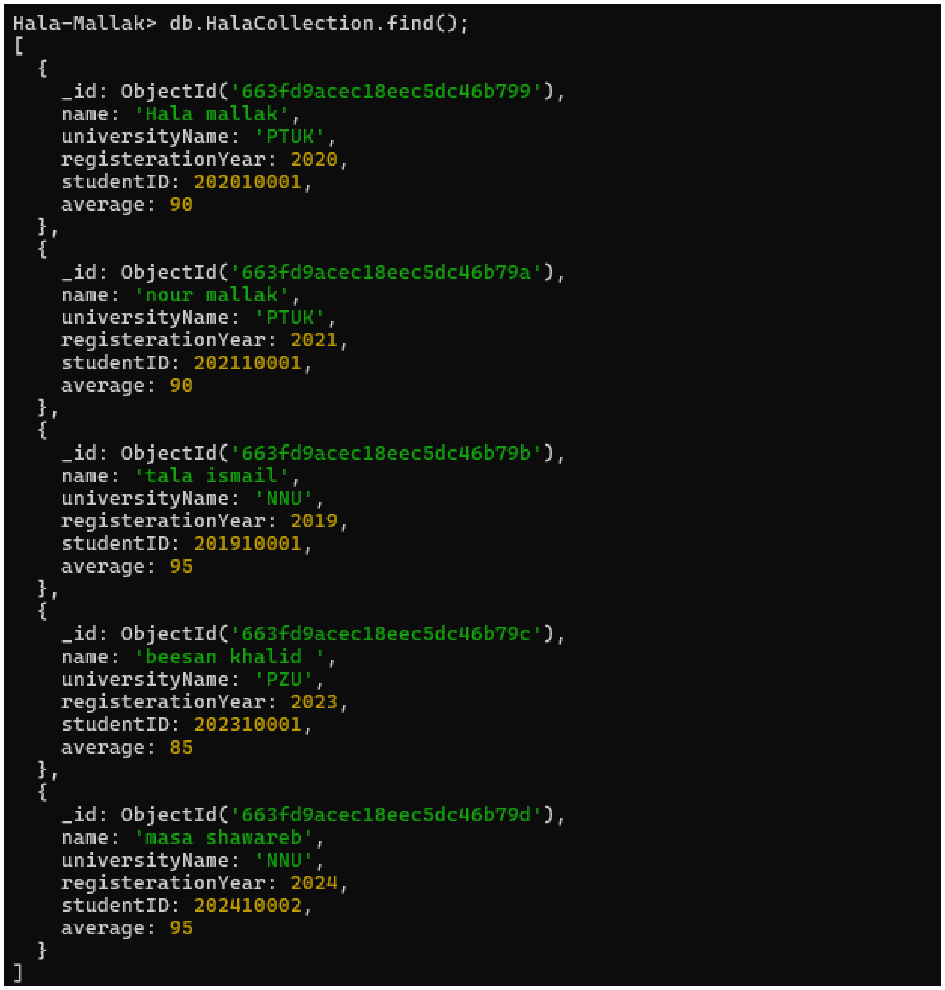
```
Hala-Mallak> show collections
HalaCollection
```

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.



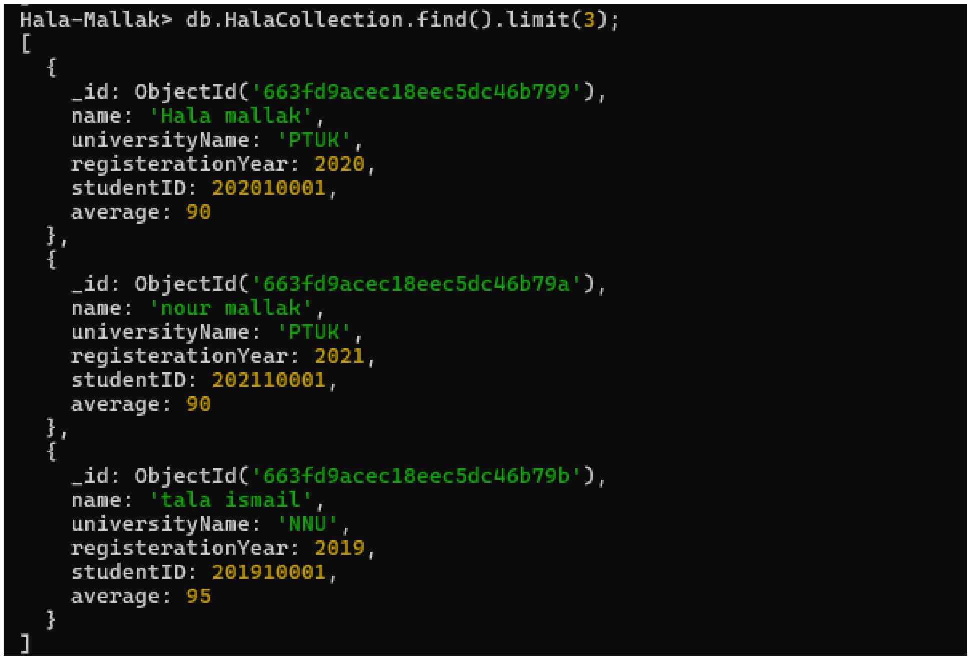
```
Hala-Mallak> db.HalaCollection.insertMany([
... {name:"Hala mallak", universityName:"PTUK", registerationYear: 2020, studentID: 202010001,
... average:90},
... {name:"nour mallak", universityName:"PTUK", registerationYear: 2021, studentID: 202110001,
... average:90},
... {name:"tala ismail", universityName:"NNU", registerationYear: 2019, studentID: 201910001,
... average:95},
... {name:"beesan khalid ", universityName:"PZU", registerationYear: 2023, studentID: 202310001,  average:85},
... {name:"masa shawareb", universityName:"NNU", registerationYear: 2024, studentID: 202410002,  average:95}
... ]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('663fd9acec18eec5dc46b799'),
    '1': ObjectId('663fd9acec18eec5dc46b79a'),
    '2': ObjectId('663fd9acec18eec5dc46b79b'),
    '3': ObjectId('663fd9acec18eec5dc46b79c'),
    '4': ObjectId('663fd9acec18eec5dc46b79d')
  }
}
```

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



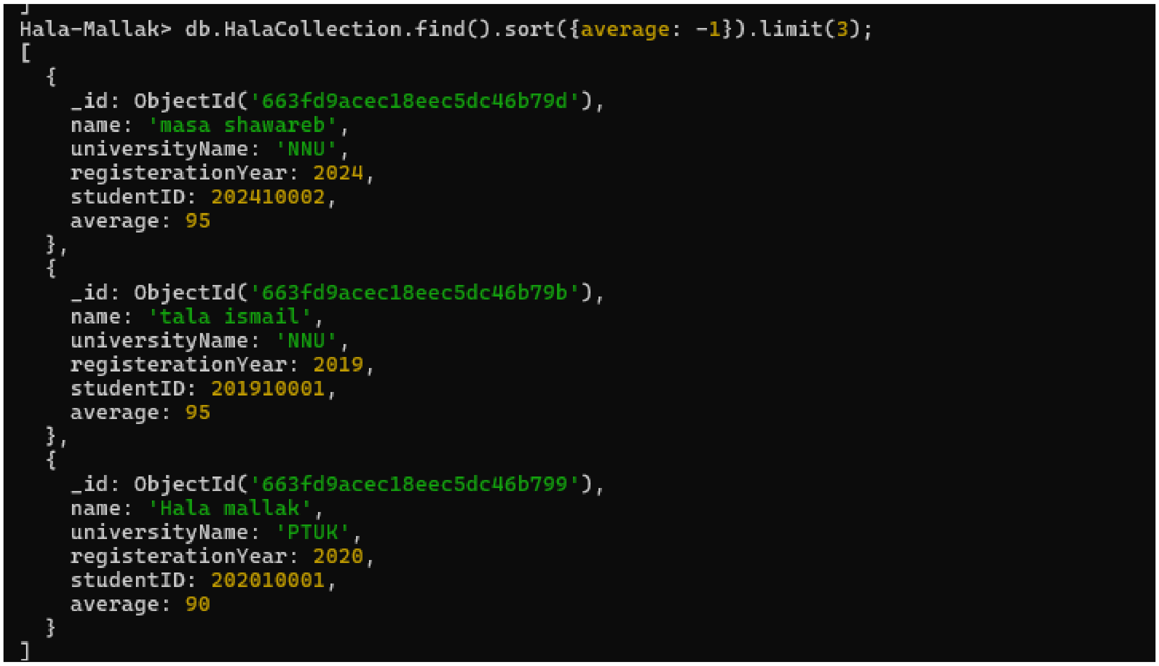
```
Hala-Mallak> db.HalaCollection.find();
[
  {
    _id: ObjectId('663fd9acec18eec5dc46b799'),
    name: 'Hala mallak',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010001,
    average: 90
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79a'),
    name: 'nour mallak',
    universityName: 'PTUK',
    registerationYear: 2021,
    studentID: 202110001,
    average: 90
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79b'),
    name: 'tala ismail',
    universityName: 'NNU',
    registerationYear: 2019,
    studentID: 201910001,
    average: 95
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79c'),
    name: 'beesan khalid ',
    universityName: 'PZU',
    registerationYear: 2023,
    studentID: 202310001,
    average: 85
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79d'),
    name: 'masa shawareb',
    universityName: 'NNU',
    registerationYear: 2024,
    studentID: 202410002,
    average: 95
  }
]
```

7. write a query that return only 3 persons.



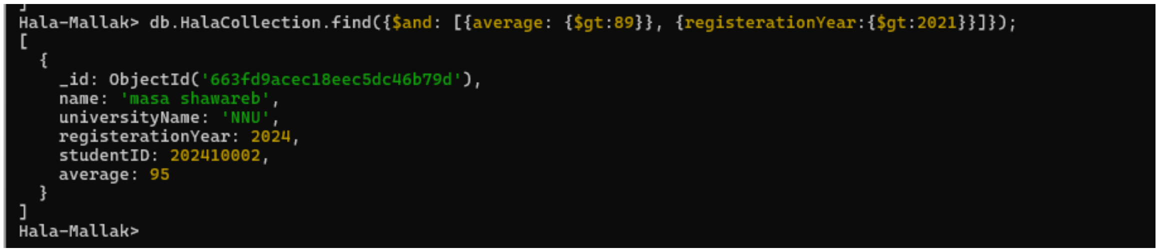
```
Hala-Mallak> db.HalaCollection.find().limit(3);
[
  {
    _id: ObjectId('663fd9acec18eec5dc46b799'),
    name: 'Hala mallak',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010001,
    average: 90
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79a'),
    name: 'nour mallak',
    universityName: 'PTUK',
    registerationYear: 2021,
    studentID: 202110001,
    average: 90
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79b'),
    name: 'tala ismail',
    universityName: 'NNU',
    registerationYear: 2019,
    studentID: 201910001,
    average: 95
  }
]
```

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



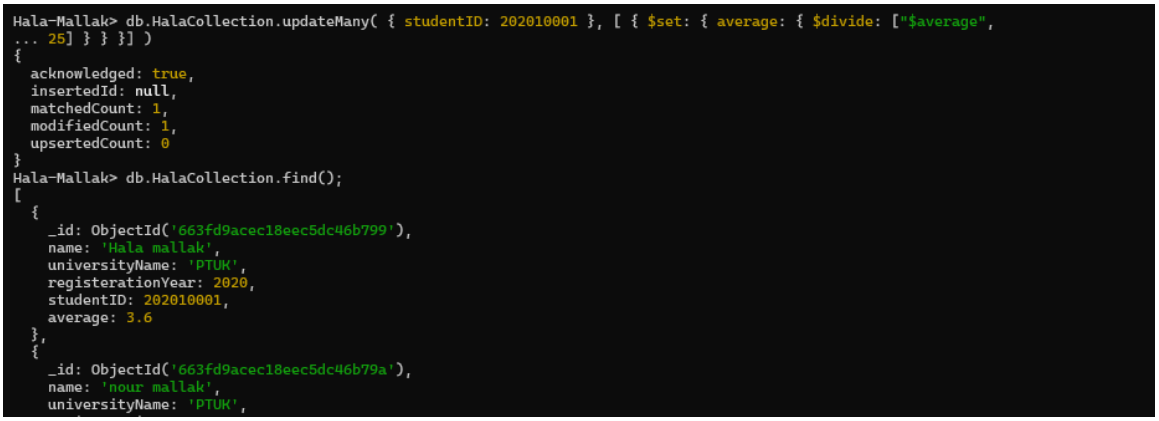
```
Hala-Mallak> db.HalaCollection.find().sort({average: -1}).limit(3);
[
  {
    _id: ObjectId('663fd9acec18eec5dc46b79d'),
    name: 'masa shawareb',
    universityName: 'NNU',
    registerationYear: 2024,
    studentID: 202410002,
    average: 95
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79b'),
    name: 'tala ismail',
    universityName: 'NNU',
    registerationYear: 2019,
    studentID: 201910001,
    average: 95
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b799'),
    name: 'Hala mallak',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010001,
    average: 90
  }
]
```

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



```
Hala-Mallak> db.HalaCollection.find({$and: [{average: {$gt:89}}, {registerationYear:{$gt:2021}}]});
[
  {
    _id: ObjectId('663fd9acec18eec5dc46b79d'),
    name: 'masa shawareb',
    universityName: 'NNU',
    registerationYear: 2024,
    studentID: 202410002,
    average: 95
  }
]
Hala-Mallak>
```

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.



```
Hala-Mallak> db.HalaCollection.updateMany( { studentID: 202010001 }, [ { $set: { average: { $divide: ["$average",
... 25] } } }] )
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Hala-Mallak> db.HalaCollection.find();
[
  {
    _id: ObjectId('663fd9acec18eec5dc46b799'),
    name: 'Hala mallak',
    universityName: 'PTUK',
    registerationYear: 2020,
    studentID: 202010001,
    average: 3.6
  },
  {
    _id: ObjectId('663fd9acec18eec5dc46b79a'),
    name: 'nour mallak',
    universityName: 'PTUK',
```