Assessment

Q1)

Use callMyDoctor

/*question 1*/

db.patentDetails.insertOne({

 "name":"Nimal Shantha",

 "birthday":new Date("Dec 26,2013"),

 "address":{

  "house no": 34,

  "street":"Colombo Road",

  "town":"Kandy",

  "postCode": 20000

 },

 "gender":"Male",

 "maritalStatus":"Single",

 "medicalHistory":["hypertention","Cholesterol"],

 "heightInCentimeter":175,

 "weightInKilograms":72,

 "contactNo":078231935,

```
        "email":"nimal@gmail.com"


})
```

```
> show dbs
admin    0.000GB
config   0.000GB
local    0.000GB
> use callMyDoctor
switched to db callMyDoctor
> /*question 1*/
... db.patentDetails.insertOne({
... "name":"Nimal Shantha",
... "birthday":new Date("Dec 26,2013"),
... "address":{
... "house no": 34,
... "street":"Colombo Road",
... "town":"Kandy",
... "postCode": 20000
... },
... "gender":"Male",
... "maritalStatus":"Single",
... "medicalHistory":["hypertention","Cholesterol"],
... "heightInCentimeter":175,
... "weightInKilograms":72,
... "contactNo":078231935,
... "email":"nimal@gmail.com"
...
... })
{
        "acknowledged" : true,
        "insertedId" : ObjectId("626d4d849264e83b8fc862f9")
}
> db.patentDetails.find().pretty()
{
        "_id" : ObjectId("626d4d849264e83b8fc862f9"),
        "name" : "Nimal Shantha",
        "birthday" : ISODate("2013-12-25T18:30:00Z"),
        "address" : {
                "house no" : 34,
                "street" : "Colombo Road",
                "town" : "Kandy",
                "postCode" : 20000
        },
        "gender" : "Male",
        "maritalStatus" : "Single",
        "medicalHistory" : [
                "hypertention",
                "Cholesterol"
        ],
        "heightInCentimeter" : 175,
        "weightInKilograms" : 72,
        "contactNo" : 78231935,
        "email" : "nimal@gmail.com"
}
>
```

Q2)

```
/*question 2*/

db.patientDetails.insertMany([{

        "name":"Kasun",

        "birthday":new Date("Feb 26,1998"),

        "address":{

                "house no": 15,

                "street":"Mahinda Road",

                "town":"Katunayake",

                "postCode": 11450

        },

        "gender":"Male",

        "maritalStatus":"Single",

        "medicalHistory":["heavyFever","stomachPain"],

        "heightInCentimeter":170,

        "weightInKilograms":65,

        "contactNo":0776542986,

        "email":"kasun112@gmail.com"


},{
```

```
        "name":"Nishantha",

        "birthday":new Date("Jan 20,1990"),

        "address":{

                "house no": 18,

                "street":"Common Road",

                "town":"Kalutara",

                "postCode": 12000

        },

        "gender":"Female",

        "maritalStatus":"Married",

        "medicalHistory":["headache","EyePain","cold"],

        "heightInCentimeter":150,

        "weightInKilograms":58,

        "contactNo":0774976429,

        "email":"nishanthi0120@gmail.com"

},{

        "name":"Kushaani",

        "birthday":new Date("March 15,1980"),

        "address":{

                "house no": 17,
```

                    "street":"Malika Road",

                    "town":"Malabe",

                    "postCode": 10115

        },

        "gender":"Female",

        "maritalStatus":"Married",

        "medicalHistory":["diabetes","Cholesterol"],

        "heightInCentimeter":156,

        "weightInKilograms":65,

        "contactNo":0756743298,

        "email":"kushaani0315@gmail.com"

},{

        "name":"Janath",

        "birthday":new Date("April 20,1985"),

        "address":{

                    "house no": 110,

                    "street":"Kehelwatta Road",

                    "town":"Kehelwatta",

                    "postCode": 12550

        },

```
        "gender":"Male",

        "maritalStatus":"Married",

        "medicalHistory":["asthma","diabetes","heartPain"],

        "heightInCentimeter":170,

        "weightInKilograms":72,

        "contactNo":0766384962,

        "email":"Janath04120@gmail.com"
},{
        "name":"Methmal",

        "birthday":new Date("May 17,1996"),

        "address":{

                "house no": 67,

                "street":"Viyarika Road",

                "town":"Galle",

                "postCode": 80000
        },

        "gender":"Male",

        "maritalStatus":"Single",

        "medicalHistory":["Diarrhea","asthma"],

        "heightInCentimeter":172,
```

```
        "weightInKilograms":75,

        "contactNo":0753298765,

        "email":"Methmal1996@gmail.com"

},{

        "name":"Kavindika",

        "birthday":new Date("Dec 23,1995"),

        "address":{

                "house no": 87,

                "street":"Main Road",

                "town":"Moratuwa",

                "postCode": 10400

        },

        "gender":"Female",

        "maritalStatus":"Single",

        "medicalHistory":"stomachPain",

        "heightInCentimeter":155,

        "weightInKilograms":60,

        "contactNo":0779085325,

        "email":"kavindika1995@gmail.com"

},{
```

"name":"Dileka",

"birthday":new Date("Nov 23,1987"),

"address":{

        "house no": 98,

        "street":"balika Road",

        "town":"Ampitiya",

        "postCode": 20160

},

"gender":"Female",

"maritalStatus":"Married",

"medicalHistory":"diabetes",

"heightInCentimeter":160,

"weightInKilograms":103,

"contactNo":0778745367,

"email":"dileka1123@gmail.com"

},{

"name":"Prashanth",

"birthday":new Date("Aug 14,1987"),

"address":{

        "house no": 162,

            "street":"Fiscal Road",

            "town":"Hikkaduwa",

            "postCode": 80240

      },

      "gender":"Male",

      "maritalStatus":"Married",

      "medicalHistory":["Dizziness","Cholesterol","diabetes"],

      "heightInCentimeter":165,

      "weightInKilograms":69,

      "contactNo":0726758876,

      "email":"Prashanth1987@gmail.com"

},{

      "name":"Arun",

      "birthday":new Date("May 18,1990"),

      "address":{

            "house no": 53,

            "street":"Temple Road",

            "town":"Trincomalee",

            "postCode": 31000

      },

        "gender":"Male",

        "maritalStatus":"Single",

        "medicalHistory":"Cholesterol",

        "heightInCentimeter":167,

        "weightInKilograms":78,

        "contactNo":0753455745,

        "email":"Arun1990@gmail.com"
},{
        "name":"Namal",

        "birthday":new Date("April 27,1983"),

        "address":{

                "house no": 90,

                "street":"School Road",

                "town":"Battaramulla",

                "postCode": 10120
        },

        "gender":"Male",

        "maritalStatus":"Married",

        "medicalHistory":["diabetes","Cholesterol","stomachPain","kneePain","Anemia"],

        "heightInCentimeter":170,

"weightInKilograms":87,

"contactNo":0775667439,

"email":"Namal1983@gmail.com"

}])

```
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("626d57d79264e83b8fc86304"),
                ObjectId("626d57d79264e83b8fc86305"),
                ObjectId("626d57d79264e83b8fc86306"),
                ObjectId("626d57d79264e83b8fc86307"),
                ObjectId("626d57d79264e83b8fc86308"),
                ObjectId("626d57d79264e83b8fc86309"),
                ObjectId("626d57d79264e83b8fc8630a"),
                ObjectId("626d57d79264e83b8fc8630b"),
                ObjectId("626d57d79264e83b8fc8630c"),
                ObjectId("626d57d79264e83b8fc8630d")
        ]
}
>
```

Q3)

db.patientDetails.update({"name":"Kasun"},{$set:{"covidVaccinated":"true"}})

db.patientDetails.update({"name":"Nishantha"},{$set:{"covidVaccinated":"true"}})

db.patientDetails.update({"name":"Kushaani"},{$set:{"covidVaccinated":"true"}})

db.patientDetails.update({"name":"Arun"},{$set:{"covidVaccinated":"true"}})

db.patientDetails.update({"name":"Prashanth"},{$set:{"covidVaccinated":"true"}})

db.patientDetails.update({"name":"Namal"},{$set:{"covidVaccinated":"true"}})

db.patientDetails.update({"name":"Dileka"},{$set:{"covidVaccinated":"false"}})

db.patientDetails.update({"name":"Kavindika"},{$set:{"covidVaccinated":"false"}})

db.patientDetails.update({"name":"Methmal"},{$set:{"covidVaccinated":"false"}})

db.patientDetails.update({"name":"Janath"},{$set:{"covidVaccinated":"false"}})

```
> db.patientDetails.update({"name":"Kasun"},{$set:{"covidVaccinated":"true"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Nishantha"},{$set:{"covidVaccinated":"true"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Kushaani"},{$set:{"covidVaccinated":"true"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Arun"},{$set:{"covidVaccinated":"true"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Prashanth"},{$set:{"covidVaccinated":"true"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Namal"},{$set:{"covidVaccinated":"true"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Dileka"},{$set:{"covidVaccinated":"false"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Kavindika"},{$set:{"covidVaccinated":"false"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Methmal"},{$set:{"covidVaccinated":"false"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.patientDetails.update({"name":"Janath"},{$set:{"covidVaccinated":"false"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

Q4)

db.patientDetails.find({"weightInKilograms":{$gt:100}}).pretty()

```
> db.patientDetails.find({"weightInKilograms":{$gt:100}}).pretty()
{
        "_id" : ObjectId("626d57d79264e83b8fc8630a"),
        "name" : "Dileka",
        "birthday" : ISODate("1987-11-22T18:30:00Z"),
        "address" : {
                "house no" : 98,
                "street" : "balika Road",
                "town" : "Ampitiya",
                "postCode" : 20160
        },
        "gender" : "Female",
        "maritalStatus" : "Married",
        "medicalHistory" : "diabetes",
        "heightInCentimeter" : 160,
        "weightInKilograms" : 103,
        "contactNo" : 778745367,
        "email" : "dileka1123@gmail.com",
        "covidVaccinated" : "false"
}
>
```

Q5)

db.patientDetails.remove({ "covidVaccinated" :"false"})

```
> db.patientDetails.remove({ "covidVaccinated" :"false"})
WriteResult({ "nRemoved" : 4 })
```

```
> db.patientDetails.find().count()
6
```

Part B

Q1)

Use uniRank

```
> use uniRank
switched to db uniRank
>
```

db.uniDetails.insertMany("copy the World University Rankings 2021")

```
> db.uniDetails.count()
1185
```

Q2)

db.uniDetails.find({$and:[{"country": "United States"},{"score":{$gt:80}}]}).pretty()

```
> db.uniDetails.find({$and:[{"country": "United States"},{"score":{$gt:80}}]}).pretty()
{
        "_id" : ObjectId("626d655d9264e83b8fc8630e"),
        "year" : 2021,
        "rank_display" : "1",
        "university" : "Massachusetts Institute of Technology (MIT) ",
        "score" : 100,
        "link" : "https://www.topuniversities.com/universities/massachusetts-institute-technology-mit",
        "country" : "United States",
        "city" : "Cambridge",
        "region" : "North America",
        "logo" : "https://www.topuniversities.com/sites/default/files/massachusetts-institute-of-technology-mit_410_small.jpg"
}
{
        "_id" : ObjectId("626d655d9264e83b8fc8630f"),
        "year" : 2021,
        "rank_display" : "2",
        "university" : "Stanford University",
        "score" : 98.4,
        "link" : "https://www.topuniversities.com/universities/stanford-university",
        "country" : "United States",
        "city" : "Stanford",
        "region" : "North America",
        "logo" : "https://www.topuniversities.com/sites/default/files/stanford-university_573_small.jpg"
}
{
        "_id" : ObjectId("626d655d9264e83b8fc86310"),
        "year" : 2021,
        "rank_display" : "3",
        "university" : "Harvard University",
        "score" : 97.9,
        "link" : "https://www.topuniversities.com/universities/harvard-university",
        "country" : "United States",
        "city" : "Cambridge",
        "region" : "North America",
        "logo" : "https://www.topuniversities.com/sites/default/files/harvard-university_253_small.jpg"
}
{
        "_id" : ObjectId("626d655d9264e83b8fc86311"),
        "year" : 2021,
        "rank_display" : "4",
        "university" : "California Institute of Technology (Caltech)",
        "score" : 97,
        "link" : "https://www.topuniversities.com/universities/california-institute-technology-caltech",
        "country" : "United States",
        "city" : "Pasadena",
        "region" : "North America",
        "logo" : "https://www.topuniversities.com/sites/default/files/california-institute-of-technology-caltech_94_small.jpg"
}
{
```

```
> db.uniDetails.find({$and:[{"country": "United States"},{"score":{$gt:80}}]}).count()
14
>
```

Q3)

I created index using score field as descending order.

```
> db.uniDetails.find().sort({"score":-1}).pretty()
{
    "_id" : ObjectId("626d655d9264e83b8fc8630e"),
    "year" : 2021,
    "rank_display" : "1",
    "university" : "Massachusetts Institute of Technology (MIT) ",
    "score" : 100,
    "link" : "https://www.topuniversities.com/universities/massachusetts-institute-technology-mit",
    "country" : "United States",
    "city" : "Cambridge",
    "region" : "North America",
    "logo" : "https://www.topuniversities.com/sites/default/files/massachusetts-institute-of-technology-mit_410_small.jpg"
}
{
    "_id" : ObjectId("626d655d9264e83b8fc8630f"),
    "year" : 2021,
    "rank_display" : "2",
    "university" : "Stanford University",
    "score" : 98.4,
    "link" : "https://www.topuniversities.com/universities/stanford-university",
    "country" : "United States",
    "city" : "Stanford",
    "region" : "North America",
    "logo" : "https://www.topuniversities.com/sites/default/files/stanford-university_573_small.jpg"
}
{
    "_id" : ObjectId("626d655d9264e83b8fc86310"),
    "year" : 2021,
    "rank_display" : "3",
    "university" : "Harvard University",
```

```
> db.uniDetails.createIndex({"score":-1})
{
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "createdCollectionAutomatically" : false,
        "ok" : 1
}
```

Q4)

```
> db.uniDetails.createIndex({"score":-1,"country":1,"rank_display":1})
{
        "numIndexesBefore" : 2,
        "numIndexesAfter" : 3,
        "createdCollectionAutomatically" : false,
        "ok" : 1
}
>
```