HW#6310545906 : NoSQL & MongoDB

1)

relational model because it’s easy to search the value

2)

MongoDB because it’s not so much data use MongoDB it’s easy to use with JSON

3)

MongoDB because it’s not so much data use MongoDB it’s easy to use with JSON

4)

Gaming : mongoDB

- Player(ID, name, stats, skills)

- Stats(STR,AGI,ING)

- Skills(array[skill])

5)

Create a Database

```
use Database-HW8
'switched to db Database-HW8'
```

Create a collection name Users

```
db.createCollection("Users")
{ ok: 1 }
```

Insert data to Users collection

```
db.Users.insertMany(
    [
        {"name":"Ramesh","subject":"maths","marks":87},
        {"name":"Ramesh","subject":"english","marks":59},
        {"name":"Ramesh","subject":"science","marks":77},
        {"name":"Rav","subject":"maths","marks":62},
        {"name":"Rav","subject":"english","marks":83},
        {"name":"Rav","subject":"science","marks":71},
        {"name":"Alison","subject":"maths","marks":84},
        {"name":"Alison","subject":"english","marks":82},
        {"name":"Alison","subject":"science","marks":86},
        {"name":"Steve","subject":"maths","marks":81},
        {"name":"Steve","subject":"english","marks":89},
        {"name":"Steve","subject":"science","marks":77},
        {"name":"Jan","subject":"english","marks":0,"reason":"absent"}
    ]
)
```

```
{ acknowledged: true,
  insertedIds:
   { '0': ObjectId("6238a804dfae2ba08f5bfde2"),
     '1': ObjectId("6238a804dfae2ba08f5bfde3"),
     '2': ObjectId("6238a804dfae2ba08f5bfde4"),
     '3': ObjectId("6238a804dfae2ba08f5bfde5"),
     '4': ObjectId("6238a804dfae2ba08f5bfde6"),
     '5': ObjectId("6238a804dfae2ba08f5bfde7"),
     '6': ObjectId("6238a804dfae2ba08f5bfde8"),
     '7': ObjectId("6238a804dfae2ba08f5bfde9"),
     '8': ObjectId("6238a804dfae2ba08f5bfdea"),
     '9': ObjectId("6238a804dfae2ba08f5bfdeb"),
     '10': ObjectId("6238a804dfae2ba08f5bfdec"),
     '11': ObjectId("6238a804dfae2ba08f5bfded"),
     '12': ObjectId("6238a804dfae2ba08f5bfdee") } }
```

Find the total marks for each student across all subjects.

```
db.Users.aggregate(
    [
        {
            $group: {
              _id: "$name",
              totalMark: {
                  $sum: "$marks"
              }
            }
        }
    ]
)
{ _id: 'Jan', totalMark: 0 }
{ _id: 'Ramesh', totalMark: 223 }
{ _id: 'Rav', totalMark: 216 }
{ _id: 'Alison', totalMark: 252 }
{ _id: 'Steve', totalMark: 247 }
```

Find the maximum marks scored in each subject.

```
db.Users.aggregate(
    [
        {
            $group: {
              _id: "$subject",
              maxMark: {
                  $max: "$marks"
              }
            }
        }
    ]
)
{ _id: 'maths', maxMark: 87 }
{ _id: 'english', maxMark: 89 }
{ _id: 'science', maxMark: 86 }
```

Find the minimum marks scored by each student.

```
db.Users.aggregate(
    [
        {
            $group: {
              _id: "$name",
              minMark: {
                  $min: "$marks"
              }
            }
        }
    ]
)
{ _id: 'Rav', minMark: 62 }
{ _id: 'Alison', minMark: 82 }
{ _id: 'Steve', minMark: 77 }
{ _id: 'Jan', minMark: 0 }
{ _id: 'Ramesh', minMark: 59 }
```

Find the top two subjects based on average marks.

```
db.Users.aggregate(
    [
        {
            $group: {
              _id: "$subject",
              averageMark: {
                  $avg: "$marks"
              }
            }
        },
        {
            $sort: {
                averageMark: -1
            }
        },
        {
            $limit: 2
        }
    ]
)
{ _id: 'maths', averageMark: 78.5 }
{ _id: 'science', averageMark: 77.75 }
```