MongoDB Lab3

Restore inventory database

Write the following command on windows shell

mongorestore -d inventory “write folder path”

Ex: mongorestore -d inventory D:\intake39\MongoDB\Lab2\Inventory

Relations:

a- Display employees fullname and department name for all employees

```
inventory> db.employee.find().limit(13).forEach((emp) => { var dept = db.department.findOne({ department_id:
 emp.department_id }); print(emp.full_name + " | " + (dept ? dept.department_description : "No Dept")); });
Sheri Nowmer | HQ General Management
Derrick Whelply | HQ General Management
Michael Spence | HQ General Management
Maya Gutierrez | HQ General Management
Roberta Damstra | HQ Information Systems
Rebecca Kanagaki | HQ Marketing
Kim Brunner | Store Management
Brenda Blumberg | Store Management
Darren Stanz | HQ Finance and Accounting
Jonathan Murraiin | Store Management
Jewel Creek | Store Management
Peggy Medina | Store Management
Bryan Rutledge | Store Management

inventory>
```

b- Display employees with position “VP Country Manager” (only display employee full name and salary).

```
inventory> db.employee.find({ position_title: "VP Country Manager" }).forEach(emp => {
...     print(emp.full_name + " | Salary: " + emp.salary);
... });
Derrick Whelply | Salary: 40000
Michael Spence | Salary: 40000
Maya Gutierrez | Salary: 35000
Beverly Baker | Salary: 30000
Pedro Castillo | Salary: 35000
Laurie Borges | Salary: 35000

inventory>
```

c- Display customers full names and their regions.

```
inventory> db.customer.find().limit(10).forEach(cust => {
...     var region = db.region.findOne({ region_id: cust.address.customer_region_id });
...     print("Customer: " + cust.fullname);
...     print("Region Object: " + JSON.stringify(region, null, 2));
...     print("-------------------------------------------------");
... });
Customer: Sheri Nowmer
Region Object: {
  "_id": "53c7c973ccf26e6de850bc10",
  "region_id": {
    "low": 30,
    "high": 0,
    "unsigned": false
  },
  "sales_city": "Tlaxiaco",
  "sales_state_province": "Oaxaca",
  "sales_district": "Tlaxiaco",
  "sales_region": "Mexico South",
  "sales_country": "Mexico",
  "sales_district_id": {
    "low": 127,
    "high": 0,
    "unsigned": false
  }
}
-------------------------------------------------
Customer: Derrick Whelply
Region Object: {
  "_id": "53c7c973ccf26e6de850bf23",
  "region_id": {
    "low": 101,
    "high": 0,
```

d- In product find all products that was branded by " Washington " (try to createIndex on brand_name and test your query speed)

```
]
inventory> db.product.createIndex({ brand_name: 1 })
brand_name_1
inventory> db.product.find({ brand_name: /Washington/i })
[
  {
    _id: ObjectId('53c7c973ccf26e6de850bd88'),
    product_class_id: Long('30'),
    product_id: Long('1'),
    brand_name: 'Washington',
    product_name: 'Washington Berry Juice',
    SKU: Long('90748583674'),
    SRP: 2.85,
    gross_weight: 8.39,
    net_weight: 6.39,
    recyclable_package: false,
    low_fat: false,
    units_per_case: Long('30'),
    cases_per_pallet: Long('14'),
    shelf_width: 16.9,
    shelf_height: 12.6,
    shelf_depth: 7.4
  },
  {
    _id: ObjectId('53c7c973ccf26e6de850bd89'),
    product_class_id: Long('52'),
    product_id: Long('2'),
    brand_name: 'Washington',
    product_name: 'Washington Mango Drink',
    SKU: Long('96516502499'),
    SRP: 0.74,
    gross_weight: 7.42,
```

Aggregate function:

a- Group products by brand name, count number

```
inventory> db.product.aggregate([
...   {
...     $group: {
...       _id: "$brand_name",
...       count: { $sum: 1 }
...     }
...   },
...   {
...     $project: {
...       _id: 0,
...       BrandName: "$_id",
...       count: 1
...     }
...   }
... ])
[
  { count: 11, BrandName: 'Token' },
  { count: 2, BrandName: 'Dual City' },
  { count: 29, BrandName: 'Plato' },
  { count: 5, BrandName: 'Excel' },
  { count: 20, BrandName: 'Booker' },
  { count: 5, BrandName: 'Jumbo' },
  { count: 20, BrandName: 'Club' },
  { count: 2, BrandName: 'Big City' },
  { count: 2, BrandName: 'Framton' },
  { count: 29, BrandName: 'Super' },
```

b- Group products by brand_name and product_name ,only select brand names ("Blue Label","King","Washington") then sort them by brand_name and product_name ascending

```
inventory> db.product.aggregate([
...   {
...     $match: {
...       brand_name: { $in: ["Blue Label", "King", "Washington"] }
...     }
...   },
...   {
...     $group: {
...       _id: {
...         BrandName: "$brand_name",
...         ProductName: "$product_name"
...       }
...     }
...   },
...   {
...     $project: {
...       _id: 0,
...       BrandName: "$_id.BrandName",
...       ProductName: "$_id.ProductName"
...     }
...   },
...   {
...     $sort: {
...       BrandName: 1,
...       ProductName: 1
...     }
...   }
... ])
[
  { BrandName: 'Blue Label', ProductName: 'Blue Label Beef Soup' },
  { BrandName: 'Blue Label', ProductName: 'Blue Label Canned Beets' },
  { BrandName: 'Blue Label', ProductName: 'Blue Label Canned Peas' },
  {
    BrandName: 'Blue Label',
```

BONUS:Display maximum salary for each department (display department name and maximum salary)

```
inventory> db.employee.aggregate([
...   {
...     $group: {
...       _id: "$department_id",
...       maxSalary: { $max: "$salary" }
...     }
...   },
...   {
...     $lookup: {
...       from: "department",
...       localField: "_id",
...       foreignField: "department_id",
...       as: "dept"
...     }
...   },
...   {
...     $project: {
...       _id: 0,
...       DepartmentName: { $arrayElemAt: ["$dept.department_description", 0] },
...       MaxSalary: "$maxSalary"
...     }
...   }
... ])
[
  { DepartmentName: 'Store Information Systems', MaxSalary: 9000 },
  { DepartmentName: 'Store Permanent Butchers', MaxSalary: 8500 },
  { DepartmentName: 'HQ Information Systems', MaxSalary: 25000 },
  { DepartmentName: 'HQ General Management', MaxSalary: 80000 },
  { DepartmentName: 'HQ Marketing', MaxSalary: 45000 },
  { DepartmentName: 'HQ Finance and Accounting', MaxSalary: 50000 },
  { DepartmentName: 'HQ Human Resources', MaxSalary: 6700 },
  { DepartmentName: 'Store Management', MaxSalary: 17000 },
  { DepartmentName: 'Store Permanent Checkers', MaxSalary: 9000 },
  { DepartmentName: 'Store Temporary Checkers', MaxSalary: 20 },
  { DepartmentName: 'Store Temporary Stockers', MaxSalary: 20 },
  { DepartmentName: 'Store Permanent Stockers', MaxSalary: 6500 }
]
inventory>
```