

Mongo DB - Case Study 1 (22-07-25)

1. Find all the information about each products

```
>_MONGOSH
> use productDB
< switched to db productDB
> db.products.find()
< {
  _id: ObjectId('687f92724802621f1de5ab41'),
  id: '1',
  product_name: 'Intelligent Fresh Chips',
  product_price: 655,
  product_material: 'Concrete',
  product_color: 'mint green'
}
{
  _id: ObjectId('687f92724802621f1de5ab42'),
  id: '2',
  product_name: 'Practical Fresh Sausages',
  product_price: 911,
  product_material: 'Cotton',
  product_color: 'indigo'
}
{
  _id: ObjectId('687f92724802621f1de5ab43'),
  id: '3',
  product_name: 'Refined Steel Car',
  product_price: 690,
  product_material: 'Rubber',
  product_color: 'gold'
}
{
  _id: ObjectId('687f92724802621f1de5ab44'),
```

```
    id: '4',
    product_name: 'Gorgeous Plastic Pants',
    product_price: 492,
    product_material: 'Soft',
    product_color: 'plum'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab45'),
    id: '5',
    product_name: 'Sleek Cotton Chair',
    product_price: 33,
    product_material: 'Fresh',
    product_color: 'black'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab46'),
    id: '6',
    product_name: 'Awesome Wooden Towels',
    product_price: 474,
    product_material: 'Plastic',
    product_color: 'orange'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab47'),
    id: '7',
    product_name: 'Practical Soft Shoes',
    product_price: 500,
    product_material: 'Rubber',
```

```
    id: '4',
    product_name: 'Gorgeous Plastic Pants',
    product_price: 492,
    product_material: 'Soft',
    product_color: 'plum'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab45'),
    id: '5',
    product_name: 'Sleek Cotton Chair',
    product_price: 33,
    product_material: 'Fresh',
    product_color: 'black'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab46'),
    id: '6',
    product_name: 'Awesome Wooden Towels',
    product_price: 474,
    product_material: 'Plastic',
    product_color: 'orange'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab47'),
    id: '7',
    product_name: 'Practical Soft Shoes',
    product_price: 500,
    product_material: 'Rubber',
```

```
    product_color: 'pink'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab48'),
    id: '8',
    product_name: 'Incredible Steel Hat',
    product_price: 78,
    product_material: 'Rubber',
    product_color: 'violet'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab49'),
    id: '9',
    product_name: 'Awesome Wooden Ball',
    product_price: 28,
    product_material: 'Soft',
    product_color: 'azure'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4a'),
    id: '10',
    product_name: 'Generic Wooden Pizza',
    product_price: 84,
    product_material: 'Frozen',
    product_color: 'indigo'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4b'),
    id: '11',
    product_name: 'Unbranded Wooden Cheese',
    product_price: 26,
    product_material: 'Soft',
    product_color: 'black'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4c'),
    id: '12',
    product_name: 'Unbranded Plastic Salad',
    product_price: 89,
    product_material: 'Wooden',
    product_color: 'pink'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4d'),
    id: '13',
    product_name: 'Gorgeous Cotton Keyboard',
    product_price: 37,
    product_material: 'Concrete',
    product_color: 'sky blue'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4e'),
    id: '14',
    product_name: 'Incredible Steel Shirt',
    product_price: 54,
    product_material: 'Metal',
    product_color: 'white'
  }
}
```

```
    product_color: 'black'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4c'),
    id: '12',
    product_name: 'Unbranded Plastic Salad',
    product_price: 89,
    product_material: 'Wooden',
    product_color: 'pink'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4d'),
    id: '13',
    product_name: 'Gorgeous Cotton Keyboard',
    product_price: 37,
    product_material: 'Concrete',
    product_color: 'sky blue'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4e'),
    id: '14',
    product_name: 'Incredible Steel Shirt',
    product_price: 54,
    product_material: 'Metal',
    product_color: 'white'
  }
}
```

```

    _id: ObjectId('687f92724802621f1de5ab4f'),
    id: '15',
    product_name: 'Ergonomic Cotton Hat',
    product_price: 43,
    product_material: 'Rubber',
    product_color: 'mint green'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab50'),
    id: '16',
    product_name: 'Small Soft Chair',
    product_price: 47,
    product_material: 'Cotton',
    product_color: 'teal'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab51'),
    id: '17',
    product_name: 'Incredible Metal Car',
    product_price: 36,
    product_material: 'Fresh',
    product_color: 'indigo'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab52'),
    id: '18',
    product_name: 'Licensed Plastic Bacon',
    product_price: 88,
    product_material: 'Steel',

```

```

    product_color: 'yellow'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab53'),
    id: '19',
    product_name: 'Intelligent Cotton Chips',
    product_price: 46,
    product_material: 'Soft',
    product_color: 'azure'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab54'),
    id: '20',
    product_name: 'Handcrafted Wooden Bacon',
    product_price: 36,
    product_material: 'Concrete',
    product_color: 'lime'
  }
}

```

2. Find the product price which are between 400 to 800

```
> db.products.find({ product_price: { $gte: 400, $lte: 800 } })
< {
  _id: ObjectId('687f92724802621f1de5ab41'),
  id: '1',
  product_name: 'Intelligent Fresh Chips',
  product_price: 655,
  product_material: 'Concrete',
  product_color: 'mint green'
}
{
  _id: ObjectId('687f92724802621f1de5ab43'),
  id: '3',
  product_name: 'Refined Steel Car',
  product_price: 690,
  product_material: 'Rubber',
  product_color: 'gold'
}
{
  _id: ObjectId('687f92724802621f1de5ab44'),
  id: '4',
  product_name: 'Gorgeous Plastic Pants',
  product_price: 492,
  product_material: 'Soft',
  product_color: 'plum'
}
{
  _id: ObjectId('687f92724802621f1de5ab46'),
  id: '6',
```

```
  id: '6',
  product_name: 'Awesome Wooden Towels',
  product_price: 474,
  product_material: 'Plastic',
  product_color: 'orange'
}
{
  _id: ObjectId('687f92724802621f1de5ab47'),
  id: '7',
  product_name: 'Practical Soft Shoes',
  product_price: 500,
  product_material: 'Rubber',
  product_color: 'pink'
}
```

3. Find the product price which are not between 400 to 600

```

> db.products.find({ $or: [ { product_price: { $lt: 400 } }, { product_price: { $gt: 600 } } ] })
< {
  _id: ObjectId('687f92724802621f1de5ab41'),
  id: '1',
  product_name: 'Intelligent Fresh Chips',
  product_price: 655,
  product_material: 'Concrete',
  product_color: 'mint green'
}
{
  _id: ObjectId('687f92724802621f1de5ab42'),
  id: '2',
  product_name: 'Practical Fresh Sausages',
  product_price: 911,
  product_material: 'Cotton',
  product_color: 'indigo'
}
{
  _id: ObjectId('687f92724802621f1de5ab43'),
  id: '3',
  product_name: 'Refined Steel Car',
  product_price: 690,
  product_material: 'Rubber',
  product_color: 'gold'
}
{

```

```

  _id: ObjectId('687f92724802621f1de5ab45'),
  id: '5',
  product_name: 'Sleek Cotton Chair',
  product_price: 33,
  product_material: 'Fresh',
  product_color: 'black'
}
{
  _id: ObjectId('687f92724802621f1de5ab48'),
  id: '8',
  product_name: 'Incredible Steel Hat',
  product_price: 78,
  product_material: 'Rubber',
  product_color: 'violet'
}
{
  _id: ObjectId('687f92724802621f1de5ab49'),
  id: '9',
  product_name: 'Awesome Wooden Ball',
  product_price: 28,
  product_material: 'Soft',
  product_color: 'azure'
}
{
  _id: ObjectId('687f92724802621f1de5ab4a'),
  id: '10',
  product_name: 'Generic Wooden Pizza',
  product_price: 84,

```

```
    product_material: 'Frozen',
    product_color: 'indigo'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4b'),
    id: '11',
    product_name: 'Unbranded Wooden Cheese',
    product_price: 26,
    product_material: 'Soft',
    product_color: 'black'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4c'),
    id: '12',
    product_name: 'Unbranded Plastic Salad',
    product_price: 89,
    product_material: 'Wooden',
    product_color: 'pink'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4d'),
    id: '13',
    product_name: 'Gorgeous Cotton Keyboard',
    product_price: 37,
    product_material: 'Concrete',
    product_color: 'sky blue'
  }
  {
```

```
    _id: ObjectId('687f92724802621f1de5ab4e'),
    id: '14',
    product_name: 'Incredible Steel Shirt',
    product_price: 54,
    product_material: 'Metal',
    product_color: 'white'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab4f'),
    id: '15',
    product_name: 'Ergonomic Cotton Hat',
    product_price: 43,
    product_material: 'Rubber',
    product_color: 'mint green'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab50'),
    id: '16',
    product_name: 'Small Soft Chair',
    product_price: 47,
    product_material: 'Cotton',
    product_color: 'teal'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab51'),
    id: '17',
    product_name: 'Incredible Metal Car',
    product_price: 36,
```

```
    product_material: 'Fresh',
    product_color: 'indigo'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab52'),
    id: '18',
    product_name: 'Licensed Plastic Bacon',
    product_price: 88,
    product_material: 'Steel',
    product_color: 'yellow'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab53'),
    id: '19',
    product_name: 'Intelligent Cotton Chips',
    product_price: 46,
    product_material: 'Soft',
    product_color: 'azure'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab54'),
    id: '20',
    product_name: 'Handcrafted Wooden Bacon',
    product_price: 36,
    product_material: 'Concrete',
    product_color: 'lime'
  }
  {
```

```
    _id: ObjectId('687f92724802621f1de5ab55'),
    id: '21',
    product_name: 'Unbranded Granite Chicken',
    product_price: 90,
    product_material: 'Metal',
    product_color: 'gold'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab56'),
    id: '22',
    product_name: 'Ergonomic Soft Hat',
    product_price: 99,
    product_material: 'Rubber',
    product_color: 'black'
  }
  {
    _id: ObjectId('687f92724802621f1de5ab57'),
    id: '23',
    product_name: 'Intelligent Steel Pizza',
    product_price: 95,
    product_material: 'Cotton',
    product_color: 'azure'
  }
}
```


4. List the four product which are greater than 500 in price

```
> db.products.find({ product_price: { $gt: 500 } }).limit(4)
< {
  _id: ObjectId('687f92724802621f1de5ab41'),
  id: '1',
  product_name: 'Intelligent Fresh Chips',
  product_price: 655,
  product_material: 'Concrete',
  product_color: 'mint green'
}
{
  _id: ObjectId('687f92724802621f1de5ab42'),
  id: '2',
  product_name: 'Practical Fresh Sausages',
  product_price: 911,
  product_material: 'Cotton',
  product_color: 'indigo'
}
{
  _id: ObjectId('687f92724802621f1de5ab43'),
  id: '3',
  product_name: 'Refined Steel Car',
  product_price: 690,
  product_material: 'Rubber',
  product_color: 'gold'
}
```

5. Find the product name and product material of each products

```
> db.products.find({}, { product_name: 1, product_material: 1, _id: 0 })
< {
  product_name: 'Intelligent Fresh Chips',
  product_material: 'Concrete'
}
{
  product_name: 'Practical Fresh Sausages',
  product_material: 'Cotton'
}
{
  product_name: 'Refined Steel Car',
  product_material: 'Rubber'
}
{
  product_name: 'Gorgeous Plastic Pants',
  product_material: 'Soft'
}
{
  product_name: 'Sleek Cotton Chair',
  product_material: 'Fresh'
}
{
  product_name: 'Awesome Wooden Towels',
  product_material: 'Plastic'
}
{
  product_name: 'Practical Soft Shoes',
  product_material: 'Rubber'
}
```

```

}
{
  product_name: 'Incredible Steel Hat',
  product_material: 'Rubber'
}
{
  product_name: 'Awesome Wooden Ball',
  product_material: 'Soft'
}
{
  product_name: 'Generic Wooden Pizza',
  product_material: 'Frozen'
}
{
  product_name: 'Unbranded Wooden Cheese',
  product_material: 'Soft'
}
{
  product_name: 'Unbranded Plastic Salad',
  product_material: 'Wooden'
}
{
  product_name: 'Gorgeous Cotton Keyboard',
  product_material: 'Concrete'
}
{
  product_name: 'Incredible Steel Shirt',
  product_material: 'Metal'
}
}

```

```

}
{
  product_name: 'Ergonomic Cotton Hat',
  product_material: 'Rubber'
}
{
  product_name: 'Small Soft Chair',
  product_material: 'Cotton'
}
{
  product_name: 'Incredible Metal Car',
  product_material: 'Fresh'
}
{
  product_name: 'Licensed Plastic Bacon',
  product_material: 'Steel'
}
{
  product_name: 'Intelligent Cotton Chips',
  product_material: 'Soft'
}
{
  product_name: 'Handcrafted Wooden Bacon',
  product_material: 'Concrete'
}
}

```

6. Find the product with a row id of 10

```

> db.products.find({ id: "10" })
< {
  _id: ObjectId('687f92724802621f1de5ab4a'),
  id: '10',
  product_name: 'Generic Wooden Pizza',
  product_price: 84,
  product_material: 'Frozen',
  product_color: 'indigo'
}

```

7. Find all products which contain the value of soft in product material

```

> db.products.find({ product_material: /soft/i })
< {
  _id: ObjectId('687f92724802621f1de5ab44'),
  id: '4',
  product_name: 'Gorgeous Plastic Pants',
  product_price: 492,
  product_material: 'Soft',
  product_color: 'plum'
}
{
  _id: ObjectId('687f92724802621f1de5ab49'),
  id: '9',
  product_name: 'Awesome Wooden Ball',
  product_price: 28,
  product_material: 'Soft',
  product_color: 'azure'
}
{
  _id: ObjectId('687f92724802621f1de5ab4b'),
  id: '11',
  product_name: 'Unbranded Wooden Cheese',
  product_price: 26,
  product_material: 'Soft',
  product_color: 'black'
}
{
  _id: ObjectId('687f92724802621f1de5ab4c'),
  id: '12',
  product_name: 'Unbranded Wooden Cheese',
  product_price: 26,
  product_material: 'Soft',
  product_color: 'black'
}

```

```

    _id: ObjectId('687f92724802621f1de5ab53'),
    id: '19',
    product_name: 'Intelligent Cotton Chips',
    product_price: 46,
    product_material: 'Soft',
    product_color: 'azure'
  }

```

8. Find products which contain product color indigo and product price 492.00

```

> db.products.insertOne({id: "26", product_name: "Test Indigo Product", product_price: 492.00, product_material: "Rubber", product_color: "indigo" });
< {
  acknowledged: true,
  insertedId: ObjectId('6886581cf7422cc4de729f7d')
}
> db.products.find({product_color: "indigo", product_price: 492.00 });
< {
  _id: ObjectId('6886581cf7422cc4de729f7d'),
  id: '26',
  product_name: 'Test Indigo Product',
  product_price: 492,
  product_material: 'Rubber',
  product_color: 'indigo'
}

```

9. Delete the products which product price value are same

```

> db.products.aggregate([{$group: {_id: "$product_price",ids: { $push: "$_id" },count: { $sum: 1 } }},
  {$match: { count: { $gt: 1 } } }]);
< {
  _id: 492,
  ids: [
    ObjectId('687f92724802621f1de5ab44'),
    ObjectId('6886581cf7422cc4de729f7d')
  ],
  count: 2
}
{
  _id: 100,
  ids: [
    ObjectId('688659fcf7422cc4de729f7e'),
    ObjectId('688659fcf7422cc4de729f7f'),
    ObjectId('688659fcf7422cc4de729f80')
  ],
  count: 3
}

```

