

MongoDB Queries and Outputs

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mongosh mongodb://127.0.0.1:27017/ × + v
For mongosh info see: https://www.mongodb.com/docs/mongodb-shell/

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The server generated these startup warnings when booting
2025-05-06T23:39:49.796+03:00: Access control is not enabled for the database. Read and write access to data and configuration is
unrestricted
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test> load("customerTransactions.js")
true
customerTransactions> db.product.count();
DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.
32
customerTransactions> db.customer.count();
10
customerTransactions> db.transactions.count();
0
customerTransactions> db.transaction_contains.count();
0
customerTransactions> // Count total number of transactions
... db.customer.aggregate([
...   { $unwind: "$transaction" },
...   { $group: { _id: null, transaction_count: { $sum: 1 } } }
... ]);
[ { _id: null, transaction_count: 6 } ]
customerTransactions> // Count total number of items in transaction_contains
... db.customer.aggregate([
...   { $unwind: "$transaction" },
...   { $unwind: "$transaction.transaction_contains" },
...   { $group: { _id: null, items_count: { $sum: 1 } } }
... ]);
[ { _id: null, items_count: 31 } ]
customerTransactions> |
```

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mongosh mongodb://127.0.0.1
customerTransactions> //Part 2

customerTransactions> // Find the UPCs of all alcoholic beverages (category = 'Alcohol'):

customerTransactions> db.product.find({ category: "Alcohol" }, { upc: 1, _id: 0 });
[
  { upc: '10029' },
  { upc: '10030' },
  { upc: '10031' },
  { upc: '10032' }
]

customerTransactions> // 2. Customer ID of the customer who makes transaction 104

customerTransactions> db.customer.find({ "transaction.transaction_ID": "104" }, { customer_ID: 1, _id: 0 });
[ { customer_ID: '10' } ]

customerTransactions> // 3. How many customers made their first transaction with total < $50?

customerTransactions> db.customer.aggregate([
...   { $project: {
...     customer_ID: 1,
...     first_transaction: { $arrayElemAt: [ "$transaction", 0 ] }
...   } },
...   { $match: { "first_transaction.total": { $lt: 50 } } },
...   { $count: "low_spending_first_timers" }
... ]);
[ { low_spending_first_timers: 3 } ]

customerTransactions> // 4. Name of product(s) missing product_Description field

customerTransactions> db.product.find({ product_Description: { $exists: false } }, { product_name: 1, _id: 0 });
[ { product_name: 'Rice-A-Roni Cajun' } ]

customerTransactions>

```

```

mongosh mongodb://127.0.0.1
customerTransactions> //Number of products whose brand is 'Pepsi' or 'Coca-Cola'

customerTransactions> db.product.count({ brand: { $in: ["Pepsi", "Coca-Cola"] } });
3

customerTransactions> // Name of each product cheaper than $10 and quantity at least 50

customerTransactions> db.product.find(
...   { marked_price: { $lt: 10 }, quantity: { $gte: 50 } },
...   { product_name: 1, _id: 0 }
... );
[
  { product_name: 'Coca-Cola 2L' },
  { product_name: 'Pepsi 2L' },
  { product_name: 'Honed Glazed Ham' },
  { product_name: 'Hot Dog Buns' }
]

customerTransactions> // How many customers haven't made any transactions?

customerTransactions> db.customer.count({ transaction: { $exists: false } });
0

customerTransactions> // Or if empty array:

customerTransactions> db.customer.count({ transaction: { $size: 0 } });
5

customerTransactions> // Find all transactions (transaction_IDs) that contain alcoholic beverages

customerTransactions> var alcoholUpcs = db.product.find({ category: "Alcohol" }).toArray().map(function(p) {
...   return p.upc;
... });
...

```

```
customerTransactions> var alcoholUpes = db.product.find({ category: "Alcohol" }).toArray().map(function(p) {
...   return p.upc;
... });
...

customerTransactions> db.customer.aggregate([
...   { $unwind: "$transaction" },
...   { $unwind: "$transaction.transaction_contains" },
...   { $match: { "transaction.transaction_contains.upc": { $in: alcoholUpes } } },
...   { $group: { _id: "$transaction.transaction_ID" } }
... ]);
...
[ { _id: '103' }, { _id: '104' } ]
customerTransactions> |
```