

# CS550 Spring 2024 Project 3

**DUE: 5/3/2024 by 11:59PM**

## Read the following manuals:

- <https://docs.mongodb.com/manual/mongo/>
- <https://docs.mongodb.com/v3.2/tutorial/query-documents/>

MongoDB Community Edition is available at  
<https://docs.mongodb.com/manual/administration/install-community/>

Download the shell to test queries and interact with the data in your MongoDB database  
<https://www.mongodb.com/docs/mongodb-shell/>

## Part 1: (20 points)

You are provided with a JS file: customerTransactions.js. Within the Mongo shell, load it into MongoDB using the load() command.

For example, load a file called mongoCommands.js that is in your current working directory:

```
load("mongoCommands.js")
```

Verify that all the data are loaded successfully using count() to find the number of records for product, customer, transactions, and transaction\_contains, respectively. For example, find the number of documents for a collection called student and in an embedded collection called course, respectively:

```
db.student.count();
```

```
db.student.aggregate(  
    {$unwind: "$course"},  
    {$group: {"_id": null, tcount: {$sum:1}}},  
);
```

## Part 2: (80 points)

Perform the following queries: (10 points each)

1. Find the UPCs of all alcoholic everages. (category = 'Alcohol')
2. Find the customer\_ID of the customer who makes transaction 104.  
(transaction\_ID= '104')
3. How many customers make their **first** transaction less than \$50 in total.
4. Find the name of the product that doesn't contain the product\_Description field.

5. How many products whose brand is 'Pepsi' or 'Coca-Cola'.
6. Find the name of each product that is cheaper than \$10 and the quantity is at least 50?
7. How many customers haven't made any transactions?
8. Find all transactions (transaction\_ID) that contain alcoholic beverages.

**Deliverables:**

In a PDF file, attach copies of running your MongoDB queries and the outputs.

In a text file, include only the MongoDB queries from part 1 and part 2.