



Applied AI Solutions Development

Foundations of Data Management

FINAL PROJECT

Submitted by Group 10

- Bhatt, Pujan
- Chan, Ryan
- Chui, Stephen
- Kher, Shiva
- Salari, Mansour
- Zuniga, Rico

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A. Core Applied Data Governance Sub-Domains

We have identified the following:

1. Metadata Management
2. Reference and Master Data

B. Applied Data Governance Principles

For each sub-domain we selected in section A, we have identified the following:

1. Metadata Management
 1. Strategy
 2. Quality
2. Reference and Master Data
 3. Shared Data
 4. Stewardship

C. Policies

For each principle we identified in B, we came up with the following policies:

1. Strategy
 - a. Metadata training and awareness policy
 - b. Data storage strategy policy
2. Quality
 - c. Data standards based on top companies policy
 - d. Data validation policy
3. Shared Data (Ryan)
 - e. Data sharing
 - f. Data usage
4. Stewardship
 - g. Data incident response
 - h. Data roles and responsibilities

D. Procedures

a. Metadata Training and Awareness Policy

1. Procedure for training on metadata

- **Goal:** Make sure everyone knows how to handle metadata by conducting effective training sessions.
 - **Identify Training Needs:**
 - Check what the team knows about metadata and find areas that need more attention.
 - Figure out which parts of metadata are important based on industry standards and our company's needs.
 - **Create Training Modules:**
 - Make training lessons that cover the basics of metadata, why it's important, and how it helps our company's goals.
 - Use examples and real situations to help everyone understand better.
 - **Schedule Training Sessions:**
 - Plan regular training sessions with the team.
 - Make sure everyone takes part so we all know the same things.
 - **Make Sessions Interesting:**
 - Use fun methods like workshops and quizzes in the training.
 - Talk about real situations to make it interesting.
 - Encourage discussions to answer questions and concerns.
 - **Assessment and Feedback:**
 - Test what everyone learned at the end of each session.
 - Ask for feedback to keep improving the training.

2. Procedure for keeping everyone informed about metadata

- **Goal:** Make sure everyone in the company knows about metadata rules through an ongoing awareness campaign.
 - **Create Awareness Materials:**
 - Make materials that look good and explain why metadata is important.
 - Use things like posters, infographics, and newsletters.
 - **Distribution Channels:**
 - Find the best ways to share these materials, like sending emails, using the company's communication platforms, or putting them on bulletin boards.
 - **Regular Communication:**
 - Set up a schedule to regularly talk about metadata rules and updates.
 - Share stories of success to show how following the rules helps the company.
 - **Training Reminders:**
 - Send reminders about upcoming training and why it's important to keep learning about metadata.
 - **Feedback Mechanism:**
 - Let employees give suggestions or ask questions about metadata rules.
 - Use their feedback to make the awareness campaign better over time.

b. Data Storage Strategy Policy

Policy details:

It is mandated that all sensitive data be encrypted and stored in secure, access-controlled environments.

Procedures:

1. **Encrypting and Storing Data Safely:** First, figure out which data is private or sensitive, then use encryption tools so only authorized people can see it. Keep this encrypted data in secure places where only certain people can get in, like specific computer servers or cloud accounts.
2. **Controlling Who Can Access Data:** Make a simple plan that decides who is allowed to see or use the data based on their job. Set up the computer systems so only these people can access the data they need for work. Regularly check who has access to what, to make sure everything is still set up right and safe.

c. Data Standards Based on Top Companies Policy

1. Procedure for aligning data management with top companies
 - Quarterly review of data standards within the company
 - Identify top companies
 - Review all top companies data management strategy
 - Identify differences
 - Discuss if changes should be made
 - If changes are to be made, inform all database editors of the new policies
 - Review the changes to ensure it aligns with the company's goal
 - Implement the changes
 - Review if all changes are implemented correctly
 - Document all changes and create a post-implementation report
2. Procedure for securing data by studying other large organization's flaws
 - Monthly review security flaws within large organizations
 - Avoid falling to hackers by identifying data management within the organization
 - Study recent major data breaches and identify the flaw
 - Discuss how to ensure the company's database won't suffer the same faith
 - Identify data management improvements are identified
 - Review changes to meet company's goals
 - Inform all users of the changes
 - Implement the changes
 - Review if all changes are implemented correctly
 - Document all changes and create a post-implementation report

d. Data Validation Policy

1. Procedures 1

- Establish validation guidelines: Establish standards for the types, formats, ranges, and lengths of data inputs that are allowed.
- Put validation checks into action: To enforce the specified restrictions, use programming techniques (such as conditional statements and regular expressions).
- Give a critical assessment: Users should be notified of any validation issues and asked to adjust their input as necessary.
- Treat exceptions with grace: Give users the option to override validation tests in some situations, for example.

2. Procedures 2

- Describe the constraints: To control the relationships and characteristics of data, provide integrity constraints (e.g., primary keys, foreign keys, unique constraints).
- Apply constraints: Use Data Definition Language (DDL) statements to implement constraints inside the database structure.
- Enforce constraints: Make sure that anytime an INSERT, UPDATE, or DELETE operation modifies data, the database management system (DBMS) automatically verifies and enforces the restrictions.
- Handle constraint violations: Roll back transactions or give users enlightening error messages to handle constraints violations politely.

e. Data Sharing Policy

Objective: To regulate sharing of reference and master data across departments, teams, and systems in a managed and transparent manner to ensure data integrity and quality.

Procedures:

1. **Approval Process:** Any request for sharing reference or master data must pass through a formal approval process conducted by either the data governance committee or designated data stewardship team. The request must provide information such as the purpose of data sharing, the data components to be shared, the recipients, and the duration of sharing.
2. **Data Sharing Agreements:** Once approved, a formal sharing agreement must be constructed and signed by the data owners and the recipients of the data. This agreement should outline the terms and conditions of data sharing, including usage restrictions, security measures, confidentiality requirements, and compliance with relevant regulations.

f. Data Usage Policy

Objective: To establish guidelines and standards for the proper usage of reference and master data assets to ensure accuracy, consistency, and compliance with the organization's policies and regulatory requirements.

Procedures:

1. **Training and Awareness:** It is mandatory for all employees, contractors, and third-party vendors who access reference and master data to undergo training on data usage policies, including the importance of data quality, data security best practices, and compliance with data governance principles.
2. **Usage Guidelines:** Clear guidelines must be set to dictate the permissible use of reference and master data, outlining the authorized business processes, applications, and analytical purposes for which the data can be utilized. Any deviation from these guidelines requires formal approval from the designated data governance authority.

g. Data Incident Response Policy

Procedures:

- Establish a clear protocol for reporting data incidents promptly. This should include designated contact points or a reporting system.
- Classify incidents based on severity levels to prioritise responses effectively.
- Form an incident response team comprising individuals with relevant expertise from IT, legal, compliance, and other pertinent departments.
- Define roles and responsibilities within the incident response team, including incident coordinators, investigators, and communication liaisons.
- Develop response plans for incidents like data breaches, unauthorised access, or data loss.
- Conduct regular drills and simulations to test the effectiveness of response procedures and ensure the team is prepared to handle incidents promptly and efficiently.
- Document post-incident analysis and lessons learned to improve response procedures continuously.

h. Data Roles and Responsibilities Policy

Procedures:

- Define clear roles and responsibilities for handling data throughout its lifecycle, from creation to disposal.
- Assign data stewardship responsibilities to individuals or teams responsible for managing specific datasets or data domains.
- Document roles and responsibilities in a data governance framework or policy document accessible to all relevant personnel.
- Provide training and awareness programs to ensure employees understand their roles and responsibilities regarding data stewardship.
- Implement access controls and permissions to enforce data ownership and ensure only authorised individuals can access or modify data.
- Establish data classification and labelling procedures to clearly define the sensitivity and handling requirements of different data types.
- Regularly review and update roles and responsibilities to accommodate changes in organisational structure, data landscape, or regulatory requirements.

Lab Exercise 3:

Operational Report

Operational Report - Superstore

Sales Team Operations by Quarter

January 1, 2021 to March 31, 2021

Region	Regional Manager	State	City	Item	Unit Price (USD)	Quantity Sold	Discount Applied (Average)	Gross Sales
Central	Roxanne Rodriguez	Texas	Huntsville	Furniture	\$84.73	4	0.30	\$338.92
				Office Supplies	\$36.56	30	0.52	\$1,096.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$1,435.72
			El Paso	Furniture	\$84.73	5	0.30	\$423.65
				Office Supplies	\$36.56	3	0.20	\$109.68
				Technology	\$143.71	4	0.20	\$574.84
			Subtotal					\$1,108.17
			Dallas	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	19	0.36	\$694.64
				Technology	\$143.71	1	0.20	\$143.71
			Subtotal					\$838.35
			Austin	Furniture	\$84.73	4	0.20	\$338.92
				Office Supplies	\$36.56	3	0.75	\$109.68
				Technology	\$143.71	8	0.20	\$1,149.68
			Subtotal					\$1,598.28
			Keller	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.20	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$73.12
			Houston	Furniture	\$84.73	16	0.15	\$1,355.68
				Office Supplies	\$36.56	30	0.30	\$1,096.80
				Technology	\$143.71	23	0.12	\$3,305.33
			Subtotal					\$5,757.81
			Carrollton	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	7	0.00	\$255.92
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$255.92
			Brownsville	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.20	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Arlington	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	19	0.50	\$694.64
				Technology	\$143.71	4	0.20	\$574.84
			Subtotal					\$1,269.48
			Conroe	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	6	0.80	\$219.36
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$219.36
			Tyler	Furniture	\$84.73	3	0.60	\$254.19
				Office Supplies	\$36.56	6	0.80	\$219.36
				Technology	\$143.71	3	0.20	\$431.13
			Subtotal					\$904.68
			Amarillo	Furniture	\$84.73	2	0.32	\$169.46
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$279.14
			San Antonio	Furniture	\$84.73	10	0.31	\$847.30
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	4	0.20	\$574.84
			Subtotal					\$1,422.14
			Total					\$15,271.85
		Illinois	Oswego	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	8	0.20	\$292.48
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$292.48
			Aurora	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	17	0.10	\$621.52
				Technology	\$143.71	4	0.20	\$574.84
			Subtotal						\$1,196.36
			Chicago	Furniture		\$84.73	2	0.45	\$169.46
				Office Supplies		\$36.56	23	0.11	\$840.88
				Technology		\$143.71	7	0.20	\$1,005.97
			Subtotal						\$2,016.31
			Decatur	Furniture		\$84.73	1	0.60	\$84.73
				Office Supplies		\$36.56	12	0.20	\$438.72
				Technology		\$143.71	0	0.00	\$0.00
			Subtotal						\$523.45
			Bloomington	Furniture		\$84.73	0	0.00	\$0.00
				Office Supplies		\$36.56	0	0.00	\$0.00
				Technology		\$143.71	4	0.00	\$574.84
			Subtotal						\$574.84
			Total						\$4,028.60

Central	Roxanne Rodriguez	Oklahoma	Oklahoma City	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	6	0.00	\$219.36
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$219.36
			Muskogee	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Total					\$329.04
		Kansas	Garden City	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
		Michigan	Detroit	Furniture	\$84.73	4	0.10	\$338.92
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	2	0.10	\$287.42
			Subtotal					\$736.02
			Jackson	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	24	0.05	\$877.44
				Technology	\$143.71	9	0.03	\$1,293.39
			Subtotal					\$2,170.83
			Midland	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	7	0.00	\$255.92
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$255.92
			Dearborn Heights	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	2	0.00	\$287.42
			Subtotal					\$287.42
			Grand Rapids	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.00	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$73.12
			Ann Arbor	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Total					\$3,706.11
		Indiana	Richmond	Furniture	\$84.73	2	0.20	\$169.46
				Office Supplies	\$36.56	12	0.18	\$438.72
				Technology	\$143.71	9	0.20	\$1,293.39
			Subtotal					\$1,901.57
			Columbus	Furniture	\$84.73	2	0.00	\$169.46
				Office Supplies	\$36.56	37	0.19	\$1,352.72
				Technology	\$143.71	7	0.30	\$1,005.97
			Subtotal					\$2,528.15
			Lafayette	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	8	0.00	\$292.48
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$579.90
			Total					\$5,009.62
		Wisconsin	Kenosha	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.80	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			West Allis	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.80	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Milwaukee	Furniture	\$84.73	10	0.00	\$847.30
				Office Supplies	\$36.56			0	0.00	\$0.00
				Technology		\$143.71	10	0.40	\$1,437.10
			Subtotal						\$2,284.40
			Total						\$2,576.88
		Missouri	Springfield	Furniture	\$84.73	3	0.00	\$254.19
				Office Supplies	\$36.56	12	0.27	\$438.72
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$980.33
			Saint Charles	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	5	0.40	\$718.55
			Subtotal					\$718.55
			Total					\$1,698.88
		Iowa	Des Moines	Furniture	\$84.73	7	0.00	\$593.11
				Office Supplies	\$36.56	10	0.00	\$365.60
				Technology	\$143.71	6	0.00	\$862.26
			Subtotal					\$1,820.97
		Nebraska	Omaha	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.00	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$73.12

Central	Roxanne Rodriguez	Minnesota	Eagan	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Rochester	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	12	0.05	\$438.72
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$438.72
			Total					\$548.40
								\$0.00
		South Dakota	Rapid City	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
		Total						\$35,173.15
East	Chuck Magee	Connecticut	Meriden	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.00	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$73.12
			Fairfield	Furniture	\$84.73	7	0.00	\$593.11
				Office Supplies	\$36.56	27	0.03	\$987.12
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$1,867.65
			Waterbury	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Middletown	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	1	0.00	\$143.71
			Subtotal					\$143.71
			Total					\$2,194.16
		Ohio	Lorain	Furniture	\$84.73	4	0.20	\$338.92
				Office Supplies	\$36.56	4	0.00	\$146.24
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$485.16
			Fairfield	Furniture	\$84.73	7	0.00	\$593.11
				Office Supplies	\$36.56	27	0.03	\$987.12
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$1,867.65
			Springfield	Furniture	\$84.73	3	0.00	\$254.19
				Office Supplies	\$36.56	12	0.27	\$438.72
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$980.33
			Kent	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.20	\$109.68
				Technology	\$143.71	6	0.30	\$862.26
			Subtotal					\$971.94
			Columbus	Furniture	\$84.73	2	0.00	\$169.46
				Office Supplies	\$36.56	37	0.19	\$1,352.72
				Technology	\$143.71	7	0.30	\$1,005.97
			Subtotal					\$2,528.15
			Cincinnati	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.45	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Lakewood	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Lancaster	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	15	0.07	\$548.40
				Technology	\$143.71	5	0.20	\$718.55
			Subtotal					\$1,266.95
			Toledo	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Cleveland	Furniture	\$84.73	3	0.30	\$254.19
				Office Supplies	\$36.56	5	0.10	\$182.80
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$724.41
			Newark	Furniture	\$84.73	2	0.00	\$169.46
				Office Supplies	\$36.56	24	0.05	\$877.44
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal						\$1,046.90
			Medina	Furniture		\$84.73	0	0.00	\$0.00
				Office Supplies		\$36.56	2	0.20	\$73.12
				Technology		\$143.71	0	0.00	\$0.00
			Subtotal						\$73.12
			Troy	Furniture		\$84.73	0	0.00	\$0.00
				Office Supplies		\$36.56	0	0.00	\$0.00
				Technology		\$143.71	2	0.00	\$287.42
			Subtotal						\$287.42
			Total						\$10,419.89

East	Chuck Magee	District of Columbia	Washington	Furniture	\$84.73	2	0.00	\$169.46
				Office Supplies	\$36.56	6	0.00	\$219.36
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$388.82
		New Hampshire	Dover	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	4	0.20	\$146.24
				Technology	\$143.71	7	0.20	\$1,005.97
			Subtotal					\$1,152.21
			Concord	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.10	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Total					\$1,335.01
		Pennsylvania	Philadelphia	Furniture	\$84.73	3	0.40	\$254.19
				Office Supplies	\$36.56	51	0.14	\$1,864.56
				Technology	\$143.71	5	0.20	\$718.55
			Subtotal					\$2,837.30
			Chester	Furniture	\$84.73	3	0.20	\$254.19
				Office Supplies	\$36.56	2	0.20	\$73.12
				Technology	\$143.71	3	0.40	\$431.13
			Subtotal					\$758.44
			Total					\$3,595.74
		New Jersey	Clifton	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	8	0.20	\$292.48
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$292.48
			Vineland	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	5	0.20	\$718.55
			Subtotal					\$718.55
			Perth Amboy	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Plainfield	Furniture	\$84.73	3	0.20	\$254.19
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	8	0.00	\$1,149.68
			Subtotal					\$1,403.87
			Total					\$2,597.70
		Delaware	Dover	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	4	0.20	\$146.24
				Technology	\$143.71	7	0.20	\$1,005.97
			Subtotal					\$1,152.21
			Newark	Furniture	\$84.73	2	0.00	\$169.46
				Office Supplies	\$36.56	24	0.05	\$877.44
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$1,046.90
			Total					\$2,199.11
		Massachusetts	Cambridge	Furniture	\$84.73	2	0.00	\$169.46
				Office Supplies	\$36.56	2	0.20	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$242.58
			Lawrence	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	12	0.33	\$438.72
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$438.72
			Lowell	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	8	0.10	\$292.48
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$292.48
			Total						\$973.78
		Rhode Island	Warwick	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	3	0.00	\$431.13
			Subtotal					\$431.13
		Maryland	Clinton	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	1	0.00	\$36.56
				Technology	\$143.71	3	0.00	\$431.13
			Subtotal					\$467.69
		Total						\$24,603.03

South	Fred Suzuki	North Carolina	Jacksonville	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	23	0.50	\$840.88
				Technology	\$143.71	7	0.35	\$1,005.97
			Subtotal					\$1,846.85
			Raleigh	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	15	0.35	\$548.40
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$548.40
			Burlington	Furniture	\$84.73	4	0.30	\$338.92
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$521.72
			Charlotte	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	16	0.37	\$584.96
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$584.96
			Monroe	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	7	0.20	\$1,005.97
			Subtotal					\$1,005.97
			Fayetteville	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.20	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$73.12
			Greensboro	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Greenville	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Total					\$4,873.50
		Florida	Ormond Beach	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.70	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Miami	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	9	0.00	\$329.04
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$329.04
			Jacksonville	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	23	0.50	\$840.88
				Technology	\$143.71	7	0.35	\$1,005.97
			Subtotal					\$1,846.85
			Pembroke Pines	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.20	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			Plantation	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.00	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$73.12
			Tampa	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	1	0.20	\$143.71
			Subtotal				0.00	\$143.71
			Hollywood	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	9	0.20	\$329.04
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal						\$329.04
			Orlando	Furniture		\$84.73	0	0.00	\$0.00
				Office Supplies		\$36.56	3	0.20	\$109.68
				Technology		\$143.71	0	0.00	\$0.00
			Subtotal						\$109.68
			Total						\$3,050.80
		Arkansas	Jonesboro	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Rogers	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	3	0.00	\$431.13
			Subtotal					\$431.13
			Total					\$613.93
		Tennessee	Johnson City	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	14	0.53	\$511.84
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$799.26
			Knoxville	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	4	0.80	\$146.24
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$146.24
			Memphis	Furniture	\$84.73	2	0.10	\$169.46
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$169.46
			Total					\$1,114.96

South	Fred Suzuki	Virginia	Richmond	Furniture	\$84.73	2	0.20	\$169.46
				Office Supplies	\$36.56	12	0.18	\$438.72
				Technology	\$143.71	9	0.20	\$1,293.39
			Subtotal					\$1,901.57
			Hampton	Furniture	\$84.73	0		\$0.00
				Office Supplies	\$36.56	4	0.20	\$146.24
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$146.24
			Virginia Beach	Furniture	\$84.73	0		\$0.00
				Office Supplies	\$36.56	1	0.70	\$36.56
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$36.56
			Arlington	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	19	0.50	\$694.64
				Technology	\$143.71	4	0.20	\$574.84
			Subtotal					\$1,269.48
			Total					\$3,353.85
		Alabama	Hoover	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.00	\$73.12
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$73.12
			Decatur	Furniture	\$84.73	1	0.60	\$84.73
				Office Supplies	\$36.56	12	0.20	\$438.72
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$523.45
			Huntsville	Furniture	\$84.73	4	0.30	\$338.92
				Office Supplies	\$36.56	30	0.52	\$1,096.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$1,435.72
				Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$0.00
			Total					\$2,032.29
		Georgia	Roswell	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	7	0.00	\$255.92
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$255.92
			Columbus	Furniture	\$84.73	2	0.00	\$169.46
				Office Supplies	\$36.56	37	0.19	\$1,352.72
				Technology	\$143.71	7	0.30	\$1,005.97
			Subtotal					\$2,528.15
			Atlanta	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	8	0.10	\$292.48
				Technology	\$143.71	2	0.30	\$287.42
			Subtotal					\$579.90
			Total					\$3,363.97
		Louisiana	Lafayette	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	8	0.00	\$292.48
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$579.90
		Kentucky	Louisville	Furniture	\$84.73	11	0.00	\$932.03
				Office Supplies	\$36.56	10	0.00	\$365.60
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$1,297.63
			Murray	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Henderson	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies		\$36.56	5	0.20	\$182.80
				Technology		\$143.71	7	0.00	\$1,005.97
			Subtotal						\$1,188.77
			Total						\$2,669.20
		Mississippi	Southaven	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	8	0.00	\$292.48
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$292.48
		Total						\$21,944.88

West	Sadie Pawthorne	California	San Francisco	Furniture	\$84.73	46	0.16	\$3,897.58
				Office Supplies	\$36.56	70	0.16	\$2,559.20
				Technology	\$143.71	33	0.14	\$4,742.43
			Subtotal					\$11,199.21
			Bakersfield	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	1	0.00	\$143.71
			Subtotal					\$143.71
			Long Beach	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	10	0.00	\$365.60
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$365.60
			Los Angeles	Furniture	\$84.73	25	0.14	\$2,118.25
				Office Supplies	\$36.56	91	0.03	\$3,326.96
				Technology	\$143.71	25	0.16	\$3,592.75
			Subtotal					\$9,037.96
			Lodi	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	4	0.00	\$574.84
			Subtotal					\$574.84
			Camarillo	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.20	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Concord	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.10	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Costa Mesa	Furniture	\$84.73	3	0.00	\$254.19
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	3	0.00	\$431.13
			Subtotal					\$685.32
			Anaheim	Furniture	\$84.73	3	0.00	\$254.19
				Office Supplies	\$36.56	10	0.05	\$365.60
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$619.79
			San Diego	Furniture	\$84.73	6	0.13	\$508.38
				Office Supplies	\$36.56	2	0.00	\$73.12
				Technology	\$143.71	4	0.20	\$574.84
			Subtotal					\$1,156.34
			Thousand Oaks	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.00	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Laguna Niguel	Furniture	\$84.73	2	0.15	\$169.46
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$169.46
			Sacramento	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	4	0.00	\$146.24
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$146.24
			Oxnard	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	1	0.00	\$143.71
			Subtotal					\$143.71
			Manteca	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	3	0.00	\$109.68
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$109.68
			San Jose	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	7	0.10	\$255.92
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$255.92
			Lancaster	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	15	0.07	\$548.40
				Technology	\$143.71	5	0.20	\$718.55
			Subtotal					\$1,266.95
			Fresno	Furniture	\$84.73	6	0.10	\$508.38
				Office Supplies	\$36.56	23	0.10	\$840.88
				Technology	\$143.71	6	0.20	\$862.26
			Subtotal					\$2,211.52
			La Mesa	Furniture	\$84.73	3	0.00	\$254.19
				Office Supplies	\$36.56	0	0.00	\$0.00
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$254.19
			Fairfield	Furniture	\$84.73	7	0.00	\$593.11
				Office Supplies	\$36.56	27	0.03	\$987.12
				Technology	\$143.71	2	0.20	\$287.42
			Subtotal					\$1,867.65
			Westminster	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.00	\$73.12
				Technology	\$143.71	1	0.20	\$143.71
			Subtotal					\$216.83
			Roseville	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	5	0.80	\$182.80
				Technology	\$143.71	0	0.00	\$0.00
			Subtotal					\$182.80
			Total					\$31,156.12

West	Sadie Pawthorne	Colorado	Louisville	Furniture	\$84.73	11	0.00	\$932.03	
				Office Supplies	\$36.56	10	0.00	\$365.60	
				Technology	\$143.71	0	0.00	\$0.00	
			Subtotal					\$1,297.63	
			Aurora	Furniture	\$84.73	0	0.00	\$0.00	
				Office Supplies	\$36.56	17	0.10	\$621.52	
				Technology	\$143.71	4	0.20	\$574.84	
			Subtotal					\$1,196.36	
			Denver	Furniture	\$84.73	0	0.00	\$0.00	
				Office Supplies	\$36.56	6	0.10	\$219.36	
				Technology	\$143.71	6	0.00	\$862.26	
			Subtotal					\$1,081.62	
			Pueblo	Furniture	\$84.73	0	0.00	\$0.00	
				Office Supplies	\$36.56	5	0.00	\$182.80	
				Technology	\$143.71	0	0.00	\$0.00	
			Subtotal					\$182.80	
			Thornton	Furniture	\$84.73	3	0.50	\$254.19	
				Office Supplies	\$36.56	0	0.00	\$0.00	
				Technology	\$143.71	0	0.00	\$0.00	
			Subtotal					\$254.19	
		Longmont	Furniture	\$84.73	7	0.20	\$593.11		
			Office Supplies	\$36.56	0	0.00	\$0.00		
			Technology	\$143.71	0	0.00	\$0.00		
		Subtotal					\$593.11		
		Total					\$4,605.71		
		Montana	Great Falls	Furniture	\$84.73	0	0.00	\$0.00	
				Office Supplies	\$36.56	12	0.20	\$438.72	
				Technology	\$143.71	5	0.00	\$718.55	
			Subtotal					\$1,157.27	
		Utah	Lehi	Furniture	\$84.73	0	0.00	\$0.00	
				Office Supplies	\$36.56	7	0.00	\$255.92	
				Technology	\$143.71	0	0.00	\$0.00	
			Subtotal					\$255.92	
		Washington	Seattle	Furniture	\$84.73	4	0.00	\$338.92	
				Office Supplies	\$36.56	45	0.06	\$1,645.20	
				Technology	\$143.71	31	0.09	\$4,455.01	
			Subtotal					\$6,439.13	
			Edmonds	Furniture	\$84.73	7	0.20	\$593.11	
				Office Supplies	\$36.56	0	0.00	\$0.00	
				Technology	\$143.71	0	0.00	\$0.00	
			Subtotal					\$593.11	
			Total					\$7,032.24	
			Arizona	Glendale	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.70	\$73.12	
				Technology	\$143.71	0	0.00	\$0.00	
		Subtotal						\$73.12	
		Gilbert		Furniture	\$84.73	11	0.35	\$932.03	
				Office Supplies	\$36.56	7	0.20	\$255.92	
				Technology	\$143.71	0	0.00	\$0.00	
		Subtotal						\$1,187.95	
		Total						\$1,261.07	
		Nevada		North Las Vegas	Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	9	0.00	\$329.04	
				Technology	\$143.71	5	0.00	\$718.55	
			Subtotal					\$1,047.59	
		Oregon	Portland	Furniture	\$84.73	0	0.00	\$0.00	
				Office Supplies	\$36.56	7	0.00	\$255.92	
				Technology	\$143.71	0	0.00	\$0.00	
			Subtotal					\$255.92	
			Springfield	Furniture	\$84.73	3	0.00	\$254.19	
				Office Supplies		\$36.56	12	0.27	\$438.72
				Technology		\$143.71	2	0.20	\$287.42
			Subtotal						\$980.33
			Eugene	Furniture		\$84.73	0	0.00	\$0.00
				Office Supplies		\$36.56	3	0.00	\$109.68
				Technology		\$143.71	0	0.00	\$0.00
			Subtotal						\$109.68
			Total						\$1,345.93
			New Mexico	Santa Fe		Furniture	\$84.73	0	0.00	\$0.00
				Office Supplies	\$36.56	2	0.20	\$73.12	
				Technology	\$143.71	0	0.00	\$0.00	
		Subtotal						\$73.12	
		Albuquerque		Furniture	\$84.73	6	0.00	\$508.38	
				Office Supplies	\$36.56	13	0.00	\$475.28	
				Technology	\$143.71	13	0.10	\$1,868.23	
		Subtotal						\$2,851.89	
		Idaho	Twin Falls	Furniture	\$84.73	0	0.00	\$0.00	
				Office Supplies	\$36.56	2	0.20	\$73.12	
				Technology	\$143.71	0	0.00	\$0.00	
			Subtotal					\$73.12	
		Total					\$50,859.98		
		TOTAL							\$132,581.04

Lab Exercise 3:

Executive Report

Lab Exercise 1, 2, and 3:

Annex



Applied AI Solutions Development

Foundations of Data Management

Lab Exercise 1

Students in this Group

- Bhatt, Pujan
- Chan, Ryan
- Chui, Stephen
- Kher, Shiva
- Salari, Mansour
- Zuniga, Rico

1. Analysis of Sample Superstore Spreadsheet

Initial Observations

- Spreadsheet has 3 sheets
 - Orders
 - People
 - Returns
- The sheet Orders is the largest
- The sheet People is the smallest
- Orders has 9995 rows including the title row and 21 columns
- People has 5 rows including title row and 2 columns
- Returns has 801 rows including title row and 2 columns

Analysis of Level of Completeness

- All columns in Orders sheet have complete values except Column L (Postal Code) which has 11 null values
- The Orders sheet contain a wide-ranging set of columns (A to U) suggesting completeness or at least having the necessary values for a comprehensive report
- There is a unique id column (Row ID)
- There are also identifier columns (Customer ID and Product ID) that can be used in optimization using relational databases in the future

Analysis of Level of Inconsistencies

- Due to the volume of duplication (see Analysis of Level of Duplicates below), there might be a strong possibility of data-entry errors which can result in presence of illegitimate duplicates
- The date values seem consistent but would benefit from a more standardized date object format
- There could be geographical inconsistencies between the Country/Region, City, State, Postal Code, and Region. A more formalized reference table would help

Analysis of Level of Redundancies

- Without normalization, the level of redundancy in this spreadsheet is high as evident in the repetition of values on most of the columns
- We might be able to save storage space by reducing the columns for related values like Product ID, Category and Sub-Category if we can simply use Product ID and then derive the latter 2 values from this single value using a reference table

- We can also improve or reduce verbosity of the values, for example the States can be shortened to their 2-character codes.

Analysis of Level of Duplicates

- Orders Sheet
 - Column A (Row ID) – no duplicates
 - Column B (Order ID) - Total of 7,456 values are duplicated
 - Column C (Order Date) - Total of 9,877 values are duplicated
 - Column D (Ship Date) - Total of 9,868 values are duplicated
 - Column E (Ship Mode) - Total of 9,994 values are duplicated
 - Column F (Customer ID) - Total of 9,989 values are duplicated
 - Column G (Customer Name) - Total of 9,989 values are duplicated
 - Column H (Segment) - Total of 9,994 values are duplicated
 - Column I (Country/Region) - Total of 9,994 values are duplicated
 - Column J (City) - Total of 9,924 values are duplicated
 - Column K (State) - Total of 9,993 values are duplicated
 - Column L (Postal Code) - Total of 9,905 values are duplicated
 - Column M (Region) - Total of 9,994 values are duplicated
 - Column N (Product ID) - Total of 9,903 values are duplicated
 - Column O (Category) - Total of 9,994 values are duplicated
 - Column P (Sub-Category) - Total of 9,994 values are duplicated
 - Column Q (Product Name) - Total of 9,903 values are duplicated
 - Column R (Sales) - Total of 6,155 values are duplicated
 - Column S (Quantity) - Total of 9,994 values are duplicated
 - Column T (Discount) - Total of 9,994 values are duplicated
 - Column U (Profit) - Total of 4,277 values are duplicated
- People Sheet
 - No Duplicates
- Returns Sheet
 - Column A (Returned) - Total of 800 values are duplicated
 - Column B (Order ID) - Total of 710 values are duplicated
- Findings
 - The columns with significant duplicates have small sets of values thus they are repeated often
 - Column A (Row ID) has unique values because it is being used as the unique ID or key column
 - Column B (Order ID) has significant duplication because most customers order more than one product in a single order

- All in all, the level of duplication in the Superstore spreadsheet seems to be typical and expected of a normal sales data
- People may be considered a primary key table thus no duplication
- Returns has very simple data sets (e.g. Yes/No) thus the duplication

2. Target Audience

Operational Report

Target Audience

- Front-line staff members, such as sales representatives and customer service agents.

Intended Purpose

- This report is designed to help supervise and control operational activities.

Illustrative Scenario

- Sales representatives utilize this tool to promptly review the current status of orders and detailed shipping information.

Key Data Points

- Includes details like "Order ID," "Order Date," "Ship Date," and "Ship Mode."

Achievable Results

1. Streamlined Operations:

- Result: Sales representatives detect delays and expedite order processing.
- Impact: Accelerates order fulfillment, leading to increased customer satisfaction.

2. Enhanced Customer Service:

- Result: Customer service agents utilize real-time data for timely shipment updates.
- Impact: Customers receive timely information, enhancing their overall service experience.

Executive Report

Target Audience:

- High-level executives, including the CEO.

Intended Usage:

- Serves as a tool for decision-making and performance enhancement.

Illustrative Scenario:

- The CEO employs this report to analyze annual sales patterns and strategize for the upcoming fiscal year.

Key Data Points:

- Encompasses summarized sales data, profit margins, and regional performance metrics.

Achievable Outcomes

1. Informed Decision-Making:

- Result: The CEO identifies underperforming product categories and allocates resources to targeted marketing.
- Impact: Boosts sales for specific products, contributing to overall revenue growth.

2. Business Performance Improvement:

- Result: The CEO recognizes a trend of delayed shipments in a specific region and implements process enhancements.
- Impact: Enhances operational efficiency, reducing costs associated with late deliveries.

3. Context and Additional Assumptions

The operational report should report on the summary of the data per divisional in enough detail for the internal managers to know all the information without having to ask other people to explain to him.

The executive report should only provide a condensed overview of the data. The reader should be able to get a sense of the data and if they need more details, they can ask for the operational report.

There may be missing data in the database provided. The report might have to make assumptions about the missing data and provide a trend of the data. The dataset would have to be cleaned and migrated to a SQL database in which data is managed. That would become the database for all inquiries and is an ongoing effect to keep data current. If the data is needed for end of the quarter reports, it can be exported from the database to an error-free spreadsheet to be organized. That would be made into a presentable format.

4. Operational and Executive Reports

Operational Report:

1. Categorical columns:

- Year: Year in which the sale occurred.
- Country/Region: Country or region where the sale occurred.
- City: City where the sale occurred.
- State: State where the sale occurred.

2. Sales Performance Analysis:

- Product Category: Category of the product being sold.
- Total Sales: Total monetary value of sales for each order.
- Sales Quantity: Number of units sold for each order.
- Discount: Discount applied to the order.
- Profit: Profit generated from the sale
- Average Order Value (AOV): Average monetary value of each order, calculated as $\text{Total Sales} / \text{Number of Orders}$ (Optional).

3. Customer Segmentation Analysis:

- Customer Segment: Segment to which the customer belongs.
- Customer Count: Number of unique customers
- Customer Satisfaction Score (CSAT): Satisfaction score based on customer feedback, if available (Optional).

Executive Report:

- Country/Region: Country or region where the sale occurred.
- Total Sales: Total monetary value of sales for each year.
- Sales Growth Rate: Percentage change in sales compared to the previous year, calculated as $(\text{Current year sales} - \text{Previous year sales}) / \text{Previous year sales} * 100$.
- Average Order Value (AOV): Average monetary value of orders in each year, calculated as $\text{Total Sales} / \text{Number of Orders}$.
- Customer Satisfaction Score (CSAT): Satisfaction score based on customer feedback, if available.

5. Empty Templates

Operational Report Template

Year	Country/ Region	City	State	Product Category	Total Sales	Sales Quantity	Discount	Profit (\$)	AOV

Executive Report Template

Country/Region	Total Sales	Sales Growth Rate (%)	AOV	CSAT

Operational Report – Sales Performance Analysis

Categorical Columns

Year

Country/Region

City

State

Description

Year in which the sale occurred

Country or region where the sale occurred

City where the sale occurred

State where the sale occurred

Sales Metric

Metric

Product Category

Total Sales

Description

Category of the product being sold

Total monetary value of sales for each order

Sales Quantity	Number of units sold for each order
Discount	Discount applied to the order
Profit	Profit generated from the sale
Average Order Value (AOV)	Average monetary value of each order (calculated as Total Sales / Number of Orders, optional)

Customer Segmentation Analysis

Customer Segments	Description
Customer Segment	Segment to which the customer belongs
Customer Count	Number of unique customers
Customer Satisfaction Score (CSAT)	Satisfaction score based on customer feedback (if available, optional)

Executive Report – Sales Overview

Country/Region	Total Sales	Sales Growth Rate	Average Order Value (AOV)	CSAT
Country/Region 1	\$X	Y%	\$Z	A
Country/Region 2	\$X	Y%	\$Z	A
...



Applied AI Solutions Development

Foundations of Data Management

Lab Exercise 2

Students in this Group

- Bhatt, Pujan
- Chan, Ryan
- Chui, Stephen
- Kher, Shiva
- Salari, Mansour
- Zuniga, Rico

1. Advanced Analysis of Sample Superstore Spreadsheet

Orders Sheet

1. **Entities** – the primary object of interest in the spreadsheet
 - a. The Orders sheet represents the transactional table and the main entity here is the **Sale Transaction**
2. **Attributes** – properties of the entity Sale Transaction
 - a. Logistics-related
 - i. Row ID
 - ii. Order ID
 - iii. Order Date
 - iv. Ship Date
 - v. Ship Mode
 - b. Customer-related
 - i. Customer ID
 - ii. Customer Name
 - iii. Segment
 - c. Geographical
 - i. Country/Region
 - ii. City
 - iii. State
 - iv. Postal Code
 - v. Region
 - d. Purchase-related
 - i. Product ID
 - ii. Category
 - iii. Sub-Category
 - iv. Product Name
 - e. Financial-related
 - i. Sales
 - ii. Quantity
 - iii. Discount
 - iv. Profit
3. **Domains** – set of possible values for the attributes
 - a. Valid Dates
 - i. Order Date

- ii. Ship Date
- b. Categorical Values
 - i. Ship Mode
 - 1. First Class
 - 2. Second Class
 - 3. Standard Class
 - 4. Same Day
 - ii. Segment
 - 1. Consumer
 - 2. Corporate
 - 3. Home Office
 - iii. Product Category and Sub-Category
 - 1. Furniture
 - a. Bookcases
 - b. Chairs
 - c. Furnishings
 - d. Tables
 - 2. Office Supplies
 - a. Appliances
 - b. Art
 - c. Binders
 - d. Envelopes
 - e. Fasteners
 - f. Labels
 - g. Paper
 - h. Storage
 - i. Supplies
 - 3. Technology
 - a. Accessories
 - b. Copiers
 - c. Machines
 - d. Phones
- c. Numerical Values
 - i. Sales
 - ii. Quantity
 - iii. Discount
 - iv. Profit
- d. Geographical Values

- i. Country/Region - all valid countries
 - ii. City – all valid cities in a country
 - iii. State – all valid states (or province in the case of Canada) in a country
 - iv. Postal Code – all valid postal codes in a country
 - v. Region – can be a proprietary internal standard of the company
- 4. **Referential Integrity** – consistency of the relationship between tables, we can use the following attributes as foreign keys to link the Orders table to the other tables
 - a. Customer ID – link the order to the customer
 - b. Product ID – link the order to the product

People Sheet

- 1. **Entities**
 - a. Regional Manager
- 2. **Attributes**
 - a. Regional Manager
 - b. Region
- 3. **Domains**
 - a. All possible names
 - i. Regional Manager
 - b. Geographical but perhaps an internal standard of the company
 - i. Region
- 4. **Referential Integrity**
 - a. Region - can be a link to the Region values in the Orders sheet to match a manager for each region to handle any concerns with the orders

Returns Sheet

- 1. **Entities**
 - a. Product Returns
- 2. **Attributes**
 - a. Returned
 - b. Order ID
- 3. **Domains**
 - a. Boolean values (true/false, yes/no, 1/0, etc.)
 - i. Returned
 - b. Alphanumeric values and can serve as foreign key to the Orders table
 - i. Order ID
- 4. **Referential Integrity**

- a. Order ID – link to the Orders table, matches the one in the Orders sheet, so the referential integrity is consistent

2. Data Cleansing of Sample Superstore Spreadsheet

Data Source:

The dataset used for this cleaning process contains information about orders in the Orders sheet, with each row representing a unique order.

Data Cleaning Steps:

Handling Null Values:

Identified and removed rows with null values in any column to ensure data integrity.

Null values were found in column Postal Code and removed

Removing Duplicate Entries:

Detected and eliminated duplicate rows to streamline the dataset.

Addition of New Columns:

Added a new column named "Category ID" to categorize orders based on certain criteria.

Another new column, "Country ID", was introduced to identify the country associated with each order.

A third new column, "Segment ID", was created to segment orders based on customer segments.

Added a new column named "Address ID" to uniquely identify each address associated with an order.

Introduced a new column, "Sub-category ID", to categorize orders based on sub-categories.

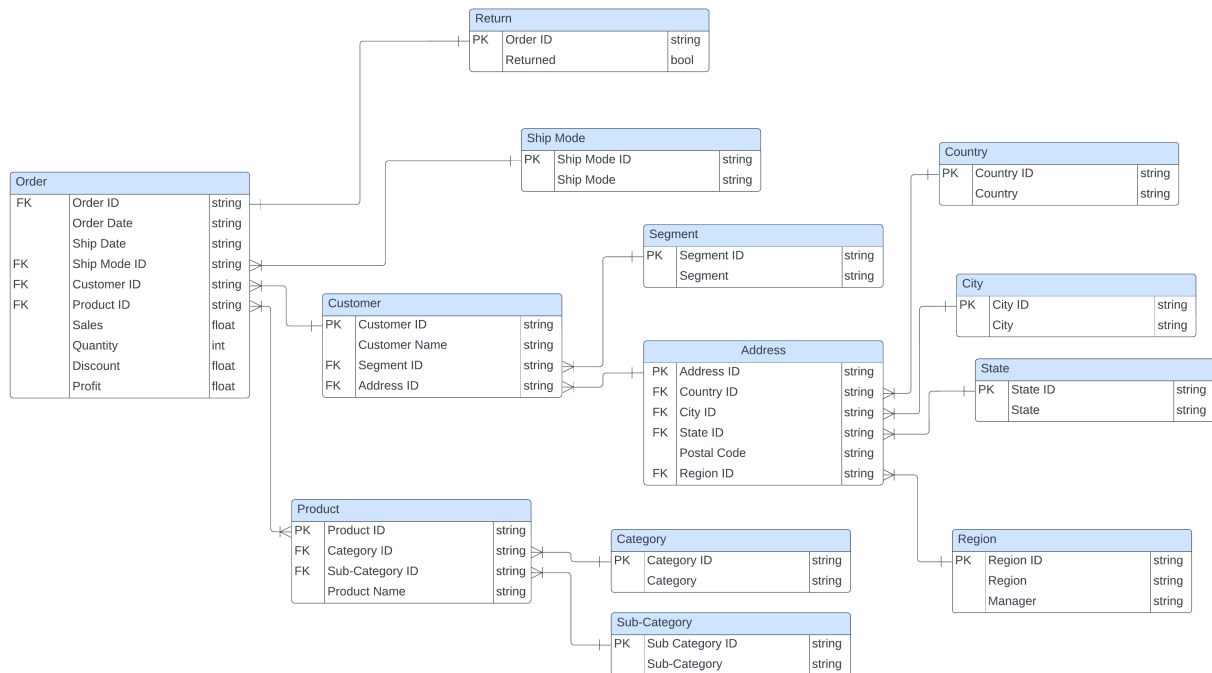
Created new columns for "City ID", "State ID", and "Region ID" to identify the geographical location associated with each order.

Included a new column, "Ship Mode ID", to classify orders based on the shipping mode selected.

Results:

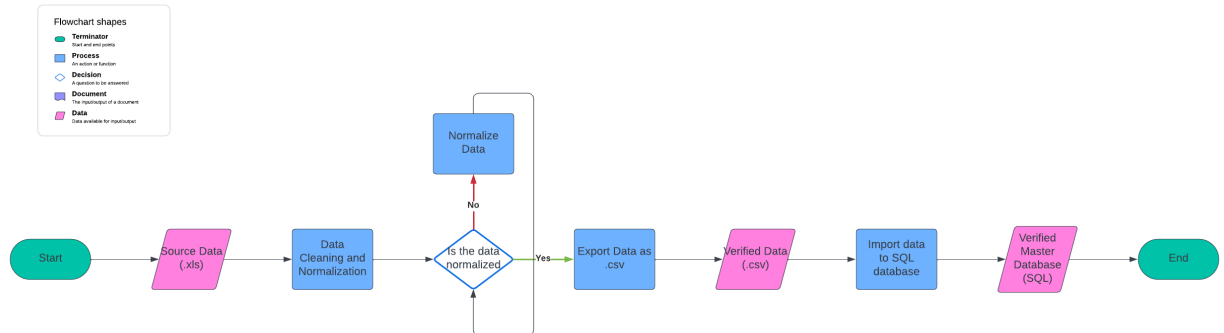
After performing the above data cleaning steps, the dataset now contains only unique, complete records without any null values. Also, the dataset was enhanced with new columns to provide more insights into the orders and their attributes.

3. Logical-Level ERD and Database Schema



https://lucid.app/lucidchart/46dc923f-ac15-4313-875f-57db18eeb028/edit?viewport_loc=-2689%2C-926%2C2909%2C1539%2C0_0&invitationId=inv_07d4c41b-9fd1-4bc8-af60-35878a6aae73

4. Data Flow



https://lucid.app/lucidchart/21d20cac-a1c7-42d5-9dc7-8a91eec0626c/edit?viewport_loc=94%2C75%2C2210%2C1250%2C0_0&invitationId=inv_643ddd42-b47d-431a-8128-540b7c41a996

ETL Process, Data Completeness, Data Integrity, and Referential Integrity

1. Understand and Analyze the Source
 - a. Begin by thoroughly understanding the data sources. Identify the type of data, its volume, and any potential challenges.
 - b. Document the source systems, their schemas, and any data transformations
2. Solving Data Issues:
 - a. Address data quality issues early in the process. Document how you handle missing values, duplicates, and outliers.
 - b. Describe any data cleansing or enrichment steps performed during transformation.
3. Altering the data:
 - a. Specify alerting mechanisms for critical events (e.g., data load failures, performance bottlenecks).
 - b. Document who receives alerts and how they respond.
4. Understand Your Organizational Requirements
 - a. Document business rules, data retention policies, and any specific requirements unique to your organization.
 - b. Include information on data refresh frequency and scheduling.
5. Cleaning Process:
 - a. Detail the steps involved in data cleansing (e.g., standardization, deduplication).
 - b. Include sample code snippets or pseudocode.
6. Minimize Data Input
 - a. Document any data reduction techniques (e.g., aggregations, sampling) to optimize processing.
 - b. Explain how historical data is managed

Other Resources

- Link to CSV, SQL, and Python files: https://github.com/pujan08/SQL_project

Lab Exercise 3: Additional Resources and Explanations

We exported the files order.csv and order_final.csv from the MySQL database and subsequently imported them into Excel for advanced processing and the creation of both executive and operational reports.

Utilizing filtering formulas, we isolated unique values for region, state, city, and product, facilitating the compilation of the Q1 2021 Operational Report. Given the extensive dataset, it was necessary to strategically categorize sub-products under their primary classifications to enhance the report's clarity and conciseness.

Additionally, we have implemented the suggestions provided in the latest Lab Exercise 3 grade feedback. The improved reports are attached in the previous pages

We've also attached in the following pages a subset of the CSV files (printing all pages is not ideal) and SQL queries, python scripts, and other pertinent files that we used.

order

Order_ID	Order_Date	Ship_Date	Ship_mode_Id	Customer_ID	Product_ID	Sales	Quantity	Discount	Profit
CA-2020-152156	11-06-2020	11-11-2020	3	CG-12520	FUR-BO-10001798	261.96	2	0	41.9136
CA-2020-152156	11-06-2020	11-11-2020	3	CG-12520	FUR-CH-10000454	731.94	3	0	219.582
CA-2020-136688	06-12-2020	6/16/2020	3	DV-13045	OFF-IA-10000240	14.62	2	0	6.8714
US-2019-106966	10-11-2019	10/18/2019	2	SO-20335	FUR-TA-10000577	957.5775	5	0.45	-383.031
US-2019-106966	10-11-2019	10/18/2019	2	SO-20335	OFF-ST-10000760	22.368	2	0.2	2.5164
CA-2018-115812	06-09-2018	6/14/2018	2	BH-11710	FUR-FU-10001487	48.86	7	0	14.1694
CA-2018-115812	06-09-2018	6/14/2018	2	BH-11710	OFF-BA-100002833	7.28	4	0	1.9656
CA-2018-115812	06-09-2018	6/14/2018	2	BH-11710	TEC-PH-100002275	907.152	6	0.2	90.7152
CA-2018-115812	06-09-2018	6/14/2018	2	BH-11710	OFF-BI-100003910	18.504	3	0.2	5.7825
CA-2018-115812	06-09-2018	6/14/2018	2	BH-11710	OFF-AP-100002892	114.9	5	0	34.47
CA-2018-115812	06-09-2018	6/14/2018	2	BH-11710	FUR-TA-10001539	1706.184	9	0.2	85.3092
CA-2018-115812	06-09-2018	6/14/2018	2	BH-11710	TEC-PH-100002033	911.424	4	0.2	68.3568
CA-2021-114412	4/15/2021	4/20/2021	2	AA-10480	OFF-PA-100002365	15.552	3	0.2	5.4432
CA-2020-161389	12-05-2020	12-10-2020	2	IM-15070	OFF-BI-100003656	407.976	3	0.2	132.5922
US-2019-118983	11/22/2019	11/26/2019	2	HP-14815	OFF-BA-100002311	68.81	5	0.8	-123.858
US-2019-118983	11/22/2019	11/26/2019	2	HP-14815	OFF-BI-100002756	2.544	3	0.8	-3.816
CA-2018-105983	11-11-2018	11/18/2018	2	PK-19075	OFF-ST-10004196	665.88	6	0	13.3176
CA-2018-167164	5/13/2018	5/15/2018	3	AG-10270	OFF-ST-10000107	55.5	2	0	9.99
CA-2018-143336	8/27/2018	09-01-2018	3	ZD-21925	OFF-AR-100003056	8.56	2	0	2.4824
CA-2018-143336	8/27/2018	09-01-2018	3	ZD-21925	TEC-PH-100001949	213.48	3	0.2	16.011
CA-2018-143336	8/27/2018	09-01-2018	3	ZD-21925	OFF-BI-100002215	22.72	4	0.2	7.384
CA-2020-137330	12-09-2020	12/13/2020	2	KB-16585	OFF-AR-100002046	19.46	7	0	5.0596
CA-2020-137330	12-09-2020	12/13/2020	2	KB-16585	OFF-AR-100001492	60.34	7	0	15.6884
US-2021-156909	7/16/2021	7/18/2021	3	SF-20065	FUR-CH-10002774	71.372	2	0.3	-1.0196
CA-2019-106320	9/25/2019	9/30/2019	2	EB-13670	FUR-TA-10000577	1044.63	3	0	240.2649
CA-2020-121705	1/16/2020	1/20/2020	3	EH-13945	OFF-BA-100001634	11.648	2	0.2	4.2224
CA-2020-121705	1/16/2020	1/20/2020	3	EH-13945	TEC-AC-100002027	90.57	3	0	11.7741
US-2019-150630	9/17/2019	9/21/2019	2	TB-21520	FUR-BO-100004834	3083.43	7	0.5	-1665.0522
US-2019-150630	9/17/2019	9/21/2019	2	TB-21520	OFF-BI-10000474	9.618	2	0.7	-7.2632
US-2019-150630	9/17/2019	9/21/2019	2	TB-21520	FUR-FU-100004948	124.2	3	0.2	15.525
US-2019-150630	9/17/2019	9/21/2019	2	TB-21520	OFF-EN-100001509	3.264	2	0.2	1.1016
US-2019-150630	9/17/2019	9/21/2019	2	TB-21520	OFF-AR-100004042	86.304	6	0.2	9.7092
US-2019-150630	9/17/2019	9/21/2019	2	TB-21520	OFF-BI-100001525	6.858	6	0.7	-5.715
US-2019-150630	9/17/2019	9/21/2019	2	TB-21520	OFF-AR-100001683	15.76	2	0.2	3.546
CA-2021-107727	10/19/2021	10/23/2021	3	MA-17560	OFF-PA-100002049	29.472	3	0.2	9.9468
CA-2020-117980	12-08-2020	12-10-2020	1	GH-14485	TEC-PH-100004977	1097.544	7	0.2	123.4737
CA-2020-117980	12-08-2020	12-10-2020	1	GH-14485	FUR-FU-100003664	190.92	5	0.6	-147.963
CA-2019-117415	12/27/2019	12/31/2019	2	SN-20710	OFF-EN-100002986	113.328	9	0.2	35.415
CA-2019-117415	12/27/2019	12/31/2019	2	SN-20710	FUR-BO-100002545	532.3992	3	0.32	-46.9764
CA-2019-117415	12/27/2019	12/31/2019	2	SN-20710	FUR-CH-100004218	212.058	3	0.3	-15.147
CA-2019-117415	12/27/2019	12/31/2019	2	SN-20710	TEC-PH-100000496	371.168	4	0.2	41.7564
CA-2021-120999	09-10-2021	9/15/2021	2	LC-16930	TEC-PH-100004093	147.168	4	0.2	16.5564
CA-2020-101343	7/17/2020	7/22/2020	2	RA-19885	OFF-ST-10003479	77.88	2	0	3.894

Order_ID	Order_Date	Ship_Date	Ship_mode_Id	Customer_ID	Product_ID	Sales	Quantity	Discount	Profit
CA-2021-139619	9/19/2021	9/23/2021	2	ES-14080	OFF-ST-10003282	95.616	2	0.2	9.5616
CA-2020-118255	03-11-2020	3/13/2020	1	ON-18715	TEC-AC-10000171	45.98	2	0	19.7174
CA-2020-118255	03-11-2020	3/13/2020	1	ON-18715	OFF-BA-100003291	17.46	2	0	8.2062
CA-2018-146703	10/20/2018	10/25/2018	3	PO-18865	OFF-ST-10001713	211.96	4	0	8.4784
CA-2020-169194	6/20/2020	6/25/2020	2	LH-16900	TEC-PH-100002167	45	3	0	4.95
CA-2019-115742	4/18/2019	4/22/2019	2	DP-13000	OFF-IA-100004410	38.22	6	0	17.9634
CA-2019-115742	4/18/2019	4/22/2019	2	DP-13000	OFF-IA-100002762	75.18	6	0	35.3346
CA-2019-115742	4/18/2019	4/22/2019	2	DP-13000	FUR-FU-100001706	6.16	2	0	2.9568
CA-2019-115742	4/18/2019	4/22/2019	2	DP-13000	FUR-CH-100003061	89.99	1	0	17.0981
CA-2020-105816	12-11-2020	12/17/2020	2	JM-15265	OFF-FA-100000304	15.26	7	0	6.2566
CA-2020-105816	12-11-2020	12/17/2020	2	JM-15265	TEC-PH-100002447	1029.95	5	0	296.6855
CA-2020-111682	6/17/2020	6/18/2020	1	TB-21055	OFF-ST-10000604	208.56	6	0	52.14
CA-2020-111682	6/17/2020	6/18/2020	1	TB-21055	OFF-PA-100001569	32.4	5	0	15.552
CA-2020-111682	6/17/2020	6/18/2020	1	TB-21055	FUR-CH-100003968	319.41	5	0.1	7.098
CA-2020-111682	6/17/2020	6/18/2020	1	TB-21055	OFF-PA-100000567	14.56	2	0	6.9888
CA-2020-111682	6/17/2020	6/18/2020	1	TB-21055	TEC-AC-10002167	30	2	0	3.3
CA-2020-111682	6/17/2020	6/18/2020	1	TB-21055	OFF-BI-100001460	48.48	4	0.2	16.362
CA-2020-111682	6/17/2020	6/18/2020	1	TB-21055	OFF-AR-100001868	1.68	1	0	0.84
CA-2019-135545	11/24/2019	11/30/2019	2	KM-16720	TEC-AC-100004633	13.98	2	0	6.1512
CA-2019-135545	11/24/2019	11/30/2019	2	KM-16720	OFF-BA-100001078	25.824	6	0.2	9.3612
CA-2019-135545	11/24/2019	11/30/2019	2	KM-16720	OFF-PA-100003892	146.73	3	0	66.9631
CA-2019-135545	11/24/2019	11/30/2019	2	KM-16720	FUR-FU-100000397	79.76	4	0	22.3328
US-2019-164175	4/30/2019	05-05-2019	2	PS-18970	FUR-CH-100001146	213.115	5	0.3	-15.2225
CA-2018-106376	12-05-2018	12-10-2018	2	BS-11590	OFF-AR-100002671	1113.024	8	0.2	111.3024
CA-2018-106376	12-05-2018	12-10-2018	2	BS-11590	TEC-PH-100002726	167.968	4	0.2	62.988
CA-2020-106075	06-04-2020	06-06-2020	1	KD-16270	OFF-PA-100000482	75.88	2	0	35.6636
CA-2020-106075	9/18/2020	9/23/2020	2	HM-14820	OFF-BI-100004654	4.616	1	0.2	1.731
CA-2021-114440	9/14/2021	9/17/2021	3	TB-21250	OFF-PA-100004675	19.05	3	0	8.763
US-2019-134026	4/26/2019	05-02-2019	2	JE-15745	FUR-CH-10000513	831.936	8	0.2	-114.3912
US-2019-134026	4/26/2019	05-02-2019	2	JE-15745	FUR-FU-100003708	97.04	2	0.2	1.213
US-2019-134026	4/26/2019	05-02-2019	2	JE-15745	OFF-ST-10004123	72.764	1	0.2	-18.196
US-2021-118038	12-09-2021	12-11-2021	1	KB-16600	OFF-BA-10004182	1.248	3	0.8	-1.9344
US-2021-118038	12-09-2021	12-11-2021	1	KB-16600	FUR-FU-100000290	9.708	3	0.8	-5.8248
US-2021-118038	12-09-2021	12-11-2021	1	KB-16600	OFF-ST-100000615	27.24	3	0.2	2.724
US-2018-147606	11/26/2018	12-01-2018	3	JE-15745	FUR-FU-10003194	19.3	5	0.6	-14.475
CA-2020-127206	06-12-2020	6/15/2020	1	SC-20770	OFF-AP-10002118	208.16	1	0	56.2032
CA-2020-127206	06-12-2020	6/15/2020	1	SC-20770	OFF-PA-100002309	16.74	3	0	8.0352
CA-2018-139451	10-12-2018	10/16/2018	2	DN-13690	OFF-AR-100002053	14.9	5	0	4.172
CA-2018-139451	10-12-2018	10/16/2018	2	DN-13690	OFF-ST-100002370	21.39	1	0	6.2031
CA-2019-149734	09-03-2019	09-08-2019	2	JC-16105	OFF-EN-100002927	200.984	7	0.2	62.8075
CA-2020-110744	11/13/2021	11/16/2021	1	CS-12400	OFF-ST-100003656	230.376	3	0.2	-48.9549
CA-2021-140088	5/28/2021	5/30/2021	3	PO-18865	FUR-CH-100000863	301.96	2	0	33.2156
CA-2021-155558	10/26/2021	11-02-2021	2	PG-18895	TEC-AC-100001998	19.99	1	0	6.7996
CA-2021-155558	10/26/2021	11-02-2021	2	PG-18895	OFF-IA-10000134	6.16	2	0	2.9568

Order_ID	Order_Date	Ship_Date	Ship_mode_Id	Customer_ID	Product_ID	Sales	Quantity	Discount	Profit
CA-2020-159695	04-05-2020	04-10-2020	3	GM-14455	OFF-ST-10003442	158.368	7	0.2	13.8572
CA-2020-159696	9/17/2020	9/22/2020	2	JS-15685	OFF-AR-100004930	20.1	3	0	6.633
CA-2020-159696	9/17/2020	9/22/2020	2	JS-15685	TEC-PH-100004093	73.584	2	0.2	8.2782
CA-2020-159696	9/17/2020	9/22/2020	2	JS-15685	OFF-PA-100003004	6.48	1	0	3.1104
CA-2019-149587	1/31/2019	02-05-2019	3	KB-16315	OFF-PA-10003177	12.96	2	0	6.2208
CA-2019-149587	1/31/2019	02-05-2019	3	KB-16315	FUR-FU-100003799	53.34	3	0	16.5334
CA-2019-149587	1/31/2019	02-05-2019	3	KB-16315	OFF-BI-100002852	32.96	2	0	16.1504
US-2021-109448	11-06-2021	11-12-2021	2	RB-19705	OFF-BI-100004738	5.682	1	0.7	-3.788
CA-2021-161018	11-09-2021	11-11-2021	3	PN-18775	FUR-FU-10000629	96.53	7	0	40.5426
CA-2021-157833	6/17/2021	6/20/2021	1	KD-16345	OFF-BI-100001721	51.312	3	0.2	17.9592
CA-2020-149223	09-06-2020	09-11-2020	2	ER-13855	OFF-AR-100003558	77.88	6	0	22.5852
CA-2020-158568	8/29/2020	09-02-2020	2	RB-19465	OFF-PA-100002256	64.624	7	0.2	22.8184
CA-2020-158568	8/29/2020	09-02-2020	2	RB-19465	TEC-AC-10001767	95.976	3	0.2	-10.7973
CA-2020-158568	8/29/2020	09-02-2020	2	RB-19465	OFF-BI-100002609	1.788	3	0.8	-3.0396
CA-2020-129903	12-01-2020	12-04-2020	3	GZ-14470	OFF-PA-100004040	23.92	4	0	11.7208
US-2019-156867	11/13/2019	11/17/2019	2	LC-16870	TEC-AC-10001552	238.896	6	0.2	-26.8758
US-2019-156867	11/13/2019	11/17/2019	2	LC-16870	FUR-FU-100004006	102.36	3	0.2	-3.8385
US-2019-156867	11/13/2019	11/17/2019	2	LC-16870	OFF-BI-100002794	36.682	7	0.7	-25.8174
CA-2021-119004	11/23/2021	11/28/2021	2	JM-12550	TEC-AC-100003499	74.112	8	0.2	17.6016
CA-2021-119004	11/23/2021	11/28/2021	2	JM-12550	TEC-PH-100002844	27.992	2	0.2	2.0994
CA-2021-119004	11/23/2021	11/28/2021	2	JM-12550	OFF-PA-100000394	3.304	1	0.2	1.0738
CA-2019-129476	10/15/2019	10/20/2019	2	PA-19060	TEC-AC-100004844	339.6	5	0.2	67.992
CA-2021-146780	12/25/2021	12/30/2021	2	CV-12805	FUR-FU-100001934	41.96	2	0	10.9096
CA-2020-128967	11-03-2020	11-10-2020	2	CL-12585	OFF-AR-100003000	75.96	2	0	22.788
CA-2020-128967	11-03-2020	11-10-2020	2	CL-12585	OFF-BI-100003981	27.24	6	0	13.3476
CA-2018-115259	8/25/2018	8/27/2018	3	RC-19960	OFF-PA-10000621	49.096	14	0.2	14.5438
CA-2018-115259	8/25/2018	8/27/2018	3	RC-19960	OFF-FN-100002600	4.276	2	0.2	1.652
CA-2018-115259	8/25/2018	8/27/2018	3	RC-19960	OFF-PA-100004965	23.92	3	0.2	7.8252
CA-2018-115259	8/25/2018	8/27/2018	3	RC-19960	OFF-FN-100002504	130.464	6	0.2	44.0216
CA-2019-110457	03-02-2019	03-06-2019	2	DK-13900	OFF-PA-100017168	78.53	3	0	165.313
US-2019-136476	04-05-2019	04-10-2019	2	GG-14650	OFF-BI-100002850	157.794	1	0.7	-117.1156
CA-2020-103790	06-12-2020	6/15/2020	1	SC-20755	OFF-PA-10002157	47.04	3	0	18.3456
CA-2020-103790	06-12-2020	6/15/2020	1	SC-20755	OFF-BI-100005910	30.84	4	0	13.878
CA-2020-103790	06-12-2020	6/15/2020	1	SC-20755	OFF-ST-10000777	226.56	6	0	63.4568
CA-2020-103790	06-12-2020	6/15/2020	1	SC-20755	OFF-FN-100002500	115.02	9	0	51.759
CA-2020-103790	06-12-2020	6/15/2020	1	SC-20755	TEC-PH-100003875	68.04	7	0	19.7316
CA-2018-152030	12/26/2018	12/28/2018	3	AD-10180	TEC-PH-100004063	600.558	3	0.3	-8.5794
US-2018-134614	9/20/2018	9/25/2018	2	PF-19165	OFF-PA-100004534	61.77	6	0.5	-407.682
US-2021-107272	11-05-2021	11-12-2021	2	TS-21610	FUR-BI-100003274	2.388	2	0.7	-1.8308
US-2021-107272	11-05-2021	11-12-2021	2	TS-21610	OFF-ST-10002974	214.92	7	0.2	30.469
US-2020-125969	11-06-2020	11-10-2020	3	LS-16975	FUR-FH-100011146	81.242	2	0.2	-19.1092
US-2020-125969	11-06-2020	11-10-2020	3	LS-16975	FUR-FH-100003733	238.6	3	0	26.2416
US-2021-161417	02-02-2021	02-05-2021	1	DW-13585	TEC-PH-100002993	59.97	5	0.4	-11.994
US-2021-161417	02-02-2021	02-05-2021	1	DW-13585	OFF-PA-100002377	78.304	2	0.2	29.364
US-2021-161417	02-02-2021	02-05-2021	1	DW-13585	OFF-FA-100002780	21.456	9	0.2	6.969

order_final

Region	State	City	Customer_Name	sub-furniture	Sales	Quantity	Discount
South	Kentucky	Henderson	Claire Gute	Bookcases	261.96	2	0
South	Kentucky	Henderson	Claire Gute	Chairs	731.94	3	0
West	California	Los Angeles	Darrin Van Huff	Labels	14.62	2	0
South	Florida	Fort Lauderdale	Sean O'Donnell	Tables	957.5775	5	0.45
South	Florida	Fort Lauderdale	Sean O'Donnell	Storage	22.368	2	0.2
West	California	Los Angeles	Brosina Hoffman	Furnishings	48.86	7	0
West	California	Los Angeles	Brosina Hoffman	Art	7.28	4	0
West	California	Los Angeles	Brosina Hoffman	Phones	907.152	6	0.2
West	California	Los Angeles	Brosina Hoffman	Binders	18.504	3	0.2
West	California	Los Angeles	Brosina Hoffman	Appliances	114.9	5	0
West	California	Los Angeles	Brosina Hoffman	Tables	1706.184	9	0.2
West	California	Los Angeles	Brosina Hoffman	Phones	911.424	4	0.2
South	North Carolina	Concord	Andrew Allen	Paper	15.552	3	0.2
West	Washington	Seattle	Irene Maddox	Binders	407.976	3	0.2
Central	Texas	Fort Worth	Harold Pawlan	Appliances	68.81	5	0.8
Central	Texas	Fort Worth	Harold Pawlan	Binders	2.544	3	0.8
Central	Wisconsin	Madison	Pete Kriz	Storage	665.88	6	0
West	Utah	West Jordan	Alejandro Grove	Storage	55.5	2	0
West	California	San Francisco	Zuschuss Donatelli	Art	8.56	2	0
West	California	San Francisco	Zuschuss Donatelli	Phones	213.48	3	0.2
West	California	San Francisco	Zuschuss Donatelli	Binders	22.72	4	0.2
Central	Nebraska	Fremont	Ken Black	Art	19.46	7	0
Central	Nebraska	Fremont	Ken Black	Appliances	60.34	7	0
East	Pennsylvania	Philadelphia	Sandra Flanagan	Chairs	71.372	2	0.3
West	Utah	Orem	Emily Burns	Tables	1044.63	3	0
West	California	Los Angeles	Eric Hoffmann	Binders	11.648	2	0.2
West	California	Los Angeles	Eric Hoffmann	Accessories	90.57	3	0
East	Pennsylvania	Philadelphia	Tracy Blumstein	Bookcases	3083.43	7	0.5
East	Pennsylvania	Philadelphia	Tracy Blumstein	Binders	9.618	2	0.2
East	Pennsylvania	Philadelphia	Tracy Blumstein	Furnishings	124.2	3	0.7
East	Pennsylvania	Philadelphia	Tracy Blumstein	Envelopes	3.264	2	0.2
East	Pennsylvania	Philadelphia	Tracy Blumstein	Art	86.304	6	0.2
East	Pennsylvania	Philadelphia	Tracy Blumstein	Binders	6.858	6	0.7

Region	State	City	Customer_Name	sub-furniture	Sales	Quantity	Discount
East	Pennsylvania	Philadelphia	Tracy Blumstein	Art	15.76	2	0.2
Central	Texas	Houston	Matt Abelman	Paper	29.472	3	0.2
Central	Texas	Richardson	Gene Hale	Phones	1097.544	7	0.2
Central	Texas	Richardson	Gene Hale	Furnishings	190.92	5	0.6
Central	Texas	Houston	Steve Nguyen	Envelopes	113.328	9	0.2
Central	Texas	Houston	Steve Nguyen	Bookcases	532.3992	3	0.32
Central	Texas	Houston	Steve Nguyen	Chairs	212.058	3	0.3
Central	Texas	Houston	Steve Nguyen	Phones	371.168	4	0.2
Central	Illinois	Naperville	Linda Cazamias	Phones	147.168	4	0.2
West	California	Los Angeles	Ruben Ausman	Storage	77.88	2	0
South	Florida	Melbourne	Erin Smith	Storage	95.616	2	0.2
Central	Minnesota	Eagan	Odella Nelson	Accessories	45.98	2	0
Central	Minnesota	Eagan	Odella Nelson	Binders	17.46	2	0
Central	Michigan	Westland	Patrick O'Donnell	Storage	211.96	4	0
East	Delaware	Dover	Lena Hernandez	Accessories	45	3	0
East	Delaware	Dover	Lena Hernandez	Phones	21.8	2	0
Central	Indiana	New Albany	Darren Powers	Binders	38.22	6	0
Central	Indiana	New Albany	Darren Powers	Labels	75.18	6	0
Central	Indiana	New Albany	Darren Powers	Furnishings	6.16	2	0
Central	Indiana	New Albany	Darren Powers	Chairs	89.99	1	0
East	New York	New York City	Janet Molinari	Fasteners	15.26	7	0
East	New York	New York City	Janet Molinari	Phones	1029.95	5	0
East	New York	Troy	Ted Butterfield	Storage	208.56	6	0
East	New York	Troy	Ted Butterfield	Paper	32.4	5	0
East	New York	Troy	Ted Butterfield	Chairs	319.41	5	0.1
East	New York	Troy	Ted Butterfield	Paper	14.56	2	0
East	New York	Troy	Ted Butterfield	Accessories	30	2	0
East	New York	Troy	Ted Butterfield	Binders	48.48	4	0.2
East	New York	Troy	Ted Butterfield	Art	1.68	1	0
West	California	Los Angeles	Kunst Miller	Accessories	13.98	2	0
West	California	Los Angeles	Kunst Miller	Binders	25.824	6	0.2
West	California	Los Angeles	Kunst Miller	Paper	146.73	3	0
West	California	Los Angeles	Kunst Miller	Furnishings	79.76	4	0
Central	Illinois	Chicago	Paul Stevenson	Chairs	213.115	5	0.3

Region	State	City	Customer_Name	sub-furniture	Sales	Quantity	Discount
West	Arizona	Gilbert	Brendan Sweed	Art	1113.024	8	0.2
West	Arizona	Gilbert	Brendan Sweed	Phones	167.968	4	0.2
South	Virginia	Springfield	Karen Daniels	Paper	75.88	2	0
East	New York	New York City	Henry MacAllister	Binders	4.616	1	0.2
Central	Michigan	Jackson	Tracy Blumstein	Paper	19.05	3	0
South	Tennessee	Memphis	Joel Eaton	Chairs	831.936	8	0.2
South	Tennessee	Memphis	Joel Eaton	Furnishings	97.04	2	0.2
South	Tennessee	Memphis	Joel Eaton	Storage	72.784	1	0.2
Central	Texas	Houston	Ken Brennan	Binders	1.248	3	0.8
Central	Texas	Houston	Ken Brennan	Furnishings	9.708	3	0.6
Central	Texas	Houston	Ken Brennan	Storage	27.24	3	0.2
Central	Texas	Houston	Joel Eaton	Furnishings	19.3	5	0.6
South	Alabama	Decatur	Stewart Carmichael	Appliances	208.16	1	0
South	Alabama	Decatur	Stewart Carmichael	Binders	16.74	3	0
West	California	San Francisco	Duane Noonan	Art	14.9	5	0
West	California	San Francisco	Duane Noonan	Storage	21.39	1	0
South	North Carolina	Durham	Julie Creighton	Envelopes	200.984	7	0.2
Central	Illinois	Chicago	Christopher Schild	Storage	230.376	3	0.2
South	South Carolina	Columbia	Patrick O'Donnell	Chairs	301.96	2	0
Central	Minnesota	Rochester	Paul Gonzalez	Accessories	19.99	1	0
Central	Minnesota	Rochester	Paul Gonzalez	Labels	6.16	2	0
Central	Texas	Houston	Gary Mitchum	Storage	158.368	7	0.2
West	California	Los Angeles	Jim Sink	Art	20.1	3	0
West	California	Los Angeles	Jim Sink	Phones	73.584	2	0.2
West	California	Los Angeles	Jim Sink	Paper	6.48	1	0
Central	Minnesota	Minneapolis	Karl Braun	Paper	12.96	2	0
Central	Minnesota	Minneapolis	Karl Braun	Furnishings	53.34	3	0
Central	Minnesota	Minneapolis	Karl Braun	Binders	32.96	2	0
West	Oregon	Portland	Roger Barcio	Binders	5.682	1	0.7
East	New York	New York City	Parhena Norris	Furnishings	96.53	7	0
West	California	San Francisco	Katherine Ducich	Binders	51.312	3	0.2
Central	Minnesota	Saint Paul	Elpida Rittenbach	Appliances	77.88	6	0
Central	Illinois	Chicago	Rick Bensley	Paper	64.624	7	0.2
Central	Illinois	Chicago	Rick Bensley	Accessories	95.976	3	0.2

Region	State	City	Customer_Name	sub-furniture	Sales	Quantity	Discount
Central	Illinois	Chicago	Rick Bensley	Binders	1.788	3	0.8
Central	Minnesota	Rochester	Gary Zandusky	Paper	23.92	4	0
West	Colorado	Aurora	Lena Cacioppo	Accessories	238.896	6	0.2
West	Colorado	Aurora	Lena Cacioppo	Furnishings	102.36	3	0.2
West	Colorado	Aurora	Lena Cacioppo	Binders	36.882	3	0.7
South	North Carolina	Charlotte	Janet Martin	Accessories	74.112	8	0.2
South	North Carolina	Charlotte	Janet Martin	Phones	27.992	1	0.2
South	North Carolina	Charlotte	Janet Martin	Art	3.304	1	0.2
Central	Illinois	Orland Park	Pete Armstrong	Accessories	339.96	5	0.2
East	New York	New York City	Cynthia Voltz	Furnishings	41.96	2	0
Central	Iowa	Urbandale	Clay Ludtke	Art	75.96	2	0
Central	Iowa	Urbandale	Clay Ludtke	Binders	27.24	6	0
East	Ohio	Columbus	Ryan Crowe	Fasteners	40.096	14	0.2
East	Ohio	Columbus	Ryan Crowe	Envelopes	4.72	2	0.2
East	Ohio	Columbus	Ryan Crowe	Paper	23.976	3	0.2
East	Ohio	Columbus	Ryan Crowe	Envelopes	130.464	6	0.2
West	Washington	Seattle	Dave Kipp	Tables	787.53	3	0
South	Tennessee	Bristol	Greg Guthrie	Binders	157.794	1	0.7
East	Delaware	Wilmington	Steven Cartwright	Furnishings	47.04	3	0
East	Delaware	Wilmington	Steven Cartwright	Binders	30.84	4	0
East	Delaware	Wilmington	Steven Cartwright	Storage	226.56	6	0
East	Delaware	Wilmington	Steven Cartwright	Envelopes	115.02	9	0
East	Delaware	Wilmington	Steven Cartwright	Phones	68.04	7	0
Central	Texas	Houston	Alan Dominguez	Chairs	600.558	3	0.3
Central	Illinois	Bloomington	Philip Fox	Tables	617.7	6	0.5
West	Arizona	Phoenix	Troy Staebel	Binders	2.388	2	0.7
West	Arizona	Phoenix	Troy Staebel	Storage	243.992	7	0.2
West	California	Los Angeles	Lindsay Shagiari	Chairs	81.424	2	0.2
West	California	Los Angeles	Lindsay Shagiari	Furnishings	238.56	3	0
East	Ohio	Columbus	Dorothy Wardle	Phones	59.97	5	0.4
East	Ohio	Columbus	Dorothy Wardle	Paper	78.304	2	0.2
East	Ohio	Columbus	Dorothy Wardle	Fasteners	21.456	9	0.2
West	California	Roseville	Lena Creighton	Paper	20.04	3	0
West	California	Roseville	Lena Creighton	Paper	35.44	1	0

~/Downloads/SQL_project-main/database_name.py

```
1  from sqlalchemy import create_engine, inspect
2
3  # Define MySQL connection parameters
4  mysql_host = 'localhost'          # Hostname for the MySQL server
5  mysql_user = 'root'               # Replace with your MySQL username
6  mysql_password = 'Winter_2024'    # Replace with your MySQL password
7  mysql_db = 'superstore'           # Replace with your MySQL database name
8
9  # Create SQLAlchemy engine
10 engine = create_engine(f'mysql+mysqlconnector://{mysql_user}:{mysql_password}@{mysql_host}/{mysql_db}')
11
12 # Connect to the MySQL database
13 connection = engine.connect()
14
15 # Get the database name
16 print(f"Database Name: {mysql_db}")
17
18 # Use SQLAlchemy inspect to get table names
19 inspector = inspect(engine)
20 table_names = inspector.get_table_names()
21 print("Table Names:")
22 for table_name in table_names:
23     print(f"Table: {table_name}")
24     print("Columns:")
25     for column in inspector.get_columns(table_name):
26         print(f"Name: {column['name']}, Type: {column['type']}")
27     print("\n")
28
29 # Close the connection
30 connection.close()
31
```

~/Downloads/SQL_project-main/sql_data_transfer.py

```
1 | import pandas as pd
2 | from sqlalchemy import create_engine
3 |
4 | # Load the data
5 | df = pd.read_csv('Superstore.csv')
6 |
7 | # Data clean up (if needed)
8 | df.columns = df.columns.str.strip()
9 |
10 | # Define MySQL connection parameters
11 | mysql_host = 'localhost' # Hostname for the MySQL server
12 | mysql_user = 'root' # Replace with your MySQL username
13 | mysql_password = 'Winter_2024' # Replace with your MySQL password
14 | mysql_db = 'superstore' # Replace with your MySQL database name
15 |
16 | # Create SQLAlchemy engine
17 | engine = create_engine(f'mysql+mysqlconnector://{mysql_user}:{mysql_password}@{mysql_host}/{mysql_db}')
18 |
19 | # Write DataFrame to MySQL
20 | df.to_sql('mastertable', con=engine, if_exists='replace', index=False)
21 |
22 | # Dispose of the engine
23 | engine.dispose()
24 |
```


~/Downloads/SQL_project-main/superstore_mastertable.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version  8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `mastertable`
20 --
21
22 DROP TABLE IF EXISTS `mastertable`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `mastertable` (
26   `ID` bigint DEFAULT NULL,
27   `Order_ID` text,
28   `Order_Date` text,
29   `Ship_Date` text,
30   `Ship_Mode` text,
31   `Customer_ID` text,
32   `Customer_Name` text,
33   `Segment` text,
34   `Country_Region` text,
35   `City` text,
36   `State` text,
37   `Postal_Code` double DEFAULT NULL,
38   `Region` text,
39   `Product_ID` text,
40   `Category` text,
41   `Sub-Category` text,
42   `Product_Name` text,
43   `Sales` double DEFAULT NULL,
44   `Quantity` bigint DEFAULT NULL,
45   `Discount` double DEFAULT NULL,
46   `Profit` double DEFAULT NULL
47 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
48 /*!40101 SET character_set_client = @saved_cs_client */;
49
50 --
51 -- Dumping data for table `mastertable`
```

```
52  --
53
54  LOCK TABLES `mastertable` WRITE;
55  /*!40000 ALTER TABLE `mastertable` DISABLE KEYS */;
56  INSERT INTO `mastertable` VALUES (/*THE VALUES ARE NOT INCLUDED IN THIS FILE*/);
57  /*!40000 ALTER TABLE `mastertable` ENABLE KEYS */;
58  UNLOCK TABLES;
59  /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
60
61  /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
62  /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
63  /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
64  /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
65  /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
66  /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
67  /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
68
69  -- Dump completed on 2024-02-14 20:48:57
70
```

~/Downloads/SQL_project-main/superstore_orders.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version  8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `orders`
20 --
21
22 DROP TABLE IF EXISTS `orders`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `orders` (
26   `Order_ID` varchar(255) DEFAULT NULL,
27   `Order_Date` varchar(255) DEFAULT NULL,
28   `Ship_Date` varchar(255) DEFAULT NULL,
29   `Ship_mode_ID` int DEFAULT NULL,
30   `Customer_ID` varchar(255) DEFAULT NULL,
31   `Product ID` text,
32   `Sales` float DEFAULT NULL,
33   `Quantity` int DEFAULT NULL,
34   `Discount` float DEFAULT NULL,
35   `Profit` float DEFAULT NULL
36 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
37 /*!40101 SET character_set_client = @saved_cs_client */;
38
39 --
40 -- Dumping data for table `orders`
41 --
42
43 LOCK TABLES `orders` WRITE;
44 /*!40000 ALTER TABLE `orders` DISABLE KEYS */;
45 INSERT INTO `orders` VALUES (/*THE VALUES ARE NOT INCLUDED IN THIS FILE*/);
46 /*!40000 ALTER TABLE `orders` ENABLE KEYS */;
47 UNLOCK TABLES;
48 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
49
50 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
51 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
```

```
52  /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
53  /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
54  /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
55  /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
56  /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
57
58  -- Dump completed on 2024-02-14 20:48:55
59
```

~/Downloads/SQL_project-main/superstore_customer.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `customer`
20 --
21
22 DROP TABLE IF EXISTS `customer`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `customer` (
26   `Customer_ID` varchar(255) NOT NULL,
27   `Customer_Name` varchar(255) DEFAULT NULL,
28   `Address_ID` int DEFAULT NULL,
29   `Segment_ID` int DEFAULT NULL,
30   PRIMARY KEY (`Customer_ID`),
31   KEY `fk_Segment_ID` (`Segment_ID`),
32   CONSTRAINT `fk_Segment_ID` FOREIGN KEY (`Segment_ID`) REFERENCES `segment`
   (`Segment_ID`)
33 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
34 /*!40101 SET character_set_client = @saved_cs_client */;
35
36 --
37 -- Dumping data for table `customer`
38 --
39
40 LOCK TABLES `customer` WRITE;
41 /*!40000 ALTER TABLE `customer` DISABLE KEYS */;
42 INSERT INTO `customer` VALUES (/*THE VALUES ARE NOT INCLUDED IN THIS FILE*/);
43 /*!40000 ALTER TABLE `customer` ENABLE KEYS */;
44 UNLOCK TABLES;
45 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
46
47 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
48 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
49 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
50 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
```

```
51 | /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;  
52 | /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;  
53 | /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;  
54 |  
55 | -- Dump completed on 2024-02-14 20:48:56  
56 |
```

~/Downloads/SQL_project-main/superstore_returns.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `returns`
20 --
21
22 DROP TABLE IF EXISTS `returns`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `returns` (
26   `Returned` varchar(255) DEFAULT NULL,
27   `Order_ID` varchar(255) DEFAULT NULL,
28   `Product_ID` varchar(255) NOT NULL,
29   PRIMARY KEY (`Product_ID`)
30 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
31 /*!40101 SET character_set_client = @saved_cs_client */;
32
33 --
34 -- Dumping data for table `returns`
35 --
36
37 LOCK TABLES `returns` WRITE;
38 /*!40000 ALTER TABLE `returns` DISABLE KEYS */;
39 INSERT INTO `returns` VALUES (/*THE VALUES ARE NOT INCLUDED IN THIS FILE*/);
40 /*!40000 ALTER TABLE `returns` ENABLE KEYS */;
41 UNLOCK TABLES;
42 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
43
44 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
45 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
46 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
47 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
48 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
49 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
50 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
51
52 -- Dump completed on 2024-02-14 20:48:56
53
```

~/Downloads/SQL_project-main/superstore_address.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version  8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `address`
20 --
21
22 DROP TABLE IF EXISTS `address`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `address` (
26   `Address_ID` int NOT NULL,
27   `Postal_Code` int DEFAULT NULL,
28   `Country_ID` int DEFAULT NULL,
29   `Regional_ID` int DEFAULT NULL,
30   `State_ID` int DEFAULT NULL,
31   PRIMARY KEY (`Address_ID`),
32   KEY `fk_Country_ID` (`Country_ID`),
33   KEY `fk_Regional_ID` (`Regional_ID`),
34   KEY `fk_State_ID` (`State_ID`),
35   CONSTRAINT `fk_Country_ID` FOREIGN KEY (`Country_ID`) REFERENCES `country`
36   (`Country_ID`),
37   CONSTRAINT `fk_Regional_ID` FOREIGN KEY (`Regional_ID`) REFERENCES `region`
38   (`Regional_ID`),
39   CONSTRAINT `fk_State_ID` FOREIGN KEY (`State_ID`) REFERENCES `state` (`State_ID`)
40 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
41 /*!40101 SET character_set_client = @saved_cs_client */;
42
43 --
44 -- Dumping data for table `address`
45 --
46
47 LOCK TABLES `address` WRITE;
48 /*!40000 ALTER TABLE `address` DISABLE KEYS */;
49 INSERT INTO `address` VALUES (/*THE VALUES ARE NOT INCLUDED IN THIS FILE*/);
50 /*!40000 ALTER TABLE `address` ENABLE KEYS */;
51 UNLOCK TABLES;
```



```
50  /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
51
52  /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
53  /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
54  /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
55  /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
56  /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
57  /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
58  /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
59
60  -- Dump completed on 2024-02-14 20:48:56
61
```

~/Downloads/SQL_project-main/superstore_city.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `city`
20 --
21
22 DROP TABLE IF EXISTS `city`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `city` (
26   `City_ID` int NOT NULL,
27   `City` varchar(255) DEFAULT NULL,
28   PRIMARY KEY (`City_ID`)
29 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
30 /*!40101 SET character_set_client = @saved_cs_client */;
31
32 --
33 -- Dumping data for table `city`
34 --
35
36 LOCK TABLES `city` WRITE;
37 /*!40000 ALTER TABLE `city` DISABLE KEYS */;
38 INSERT INTO `city` VALUES (/*THE VALUES ARE NOT INCLUDED IN THIS FILE*/);
39 /*!40000 ALTER TABLE `city` ENABLE KEYS */;
40 UNLOCK TABLES;
41 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
42
43 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
44 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
45 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
46 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
47 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
48 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
49 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
50
51 -- Dump completed on 2024-02-14 20:48:56
52
```

~/Downloads/SQL_project-main/superstore_state.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `state`
20 --
21
22 DROP TABLE IF EXISTS `state`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `state` (
26   `State` varchar(255) DEFAULT NULL,
27   `State_ID` int NOT NULL,
28   PRIMARY KEY (`State_ID`)
29 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
30 /*!40101 SET character_set_client = @saved_cs_client */;
31
32 --
33 -- Dumping data for table `state`
34 --
35
36 LOCK TABLES `state` WRITE;
37 /*!40000 ALTER TABLE `state` DISABLE KEYS */;
38 INSERT INTO `state` VALUES (/*THE VALUES ARE NOT INCLUDED IN THIS FILE*/);
39 /*!40000 ALTER TABLE `state` ENABLE KEYS */;
40 UNLOCK TABLES;
41 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
42
43 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
44 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
45 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
46 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
47 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
48 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
49 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
50
51 -- Dump completed on 2024-02-14 20:48:57
52
```

~/Downloads/SQL_project-main/superstore_sub_category.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `sub_category`
20 --
21
22 DROP TABLE IF EXISTS `sub_category`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `sub_category` (
26   `Sub_Category` varchar(255) DEFAULT NULL,
27   `Sub_Category_ID` int NOT NULL,
28   PRIMARY KEY (`Sub_Category_ID`)
29 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
30 /*!40101 SET character_set_client = @saved_cs_client */;
31
32 --
33 -- Dumping data for table `sub_category`
34 --
35
36 LOCK TABLES `sub_category` WRITE;
37 /*!40000 ALTER TABLE `sub_category` DISABLE KEYS */;
38 INSERT INTO `sub_category` VALUES (/*The values are omitted for brevity*/);
39 /*!40000 ALTER TABLE `sub_category` ENABLE KEYS */;
40 UNLOCK TABLES;
41 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
42
43 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
44 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
45 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
46 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
47 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
48 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
49 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
50
51 -- Dump completed on 2024-02-14 20:48:57
52
```

~/Downloads/SQL_project-main/superstore_region.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  --
5  -- Server version      8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `region`
20 --
21
22 DROP TABLE IF EXISTS `region`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `region` (
26   `Regional_Manager` varchar(255) DEFAULT NULL,
27   `Region` varchar(255) DEFAULT NULL,
28   `Regional_ID` int NOT NULL,
29   PRIMARY KEY (`Regional_ID`)
30 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
31 /*!40101 SET character_set_client = @saved_cs_client */;
32
33 --
34 -- Dumping data for table `region`
35 --
36
37 LOCK TABLES `region` WRITE;
38 /*!40000 ALTER TABLE `region` DISABLE KEYS */;
39 INSERT INTO `region` VALUES ('Sadie Pawthorne','West',1),('Chuck Magee','East',2),
40 ('Roxanne Rodriguez','Central',3),('Fred Suzuki','South',4);
41 /*!40000 ALTER TABLE `region` ENABLE KEYS */;
42 UNLOCK TABLES;
43
44 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
45
46 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
47 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
48 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
49 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
50 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
51 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
52 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
53
54 -- Dump completed on 2024-02-14 20:48:55
```

~/Downloads/SQL_project-main/superstore_ship_mode.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `ship_mode`
20 --
21
22 DROP TABLE IF EXISTS `ship_mode`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `ship_mode` (
26   `Ship_Mode` varchar(255) DEFAULT NULL,
27   `Ship_Mode_ID` varchar(255) NOT NULL,
28   PRIMARY KEY (`Ship_Mode_ID`)
29 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
30 /*!40101 SET character_set_client = @saved_cs_client */;
31
32 --
33 -- Dumping data for table `ship_mode`
34 --
35
36 LOCK TABLES `ship_mode` WRITE;
37 /*!40000 ALTER TABLE `ship_mode` DISABLE KEYS */;
38 INSERT INTO `ship_mode` VALUES ('First Class','1'),('Standard Class','2'),('Second
Class','3'),('Same Day','4');
39 /*!40000 ALTER TABLE `ship_mode` ENABLE KEYS */;
40 UNLOCK TABLES;
41 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
42
43 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
44 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
45 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
46 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
47 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
48 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
49 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
50
51 -- Dump completed on 2024-02-14 20:48:55
52
```

~/Downloads/SQL_project-main/superstore_category.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `category`
20 --
21
22 DROP TABLE IF EXISTS `category`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `category` (
26   `Category` varchar(255) DEFAULT NULL,
27   `Category_ID` int NOT NULL,
28   PRIMARY KEY (`Category_ID`)
29 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
30 /*!40101 SET character_set_client = @saved_cs_client */;
31
32 --
33 -- Dumping data for table `category`
34 --
35
36 LOCK TABLES `category` WRITE;
37 /*!40000 ALTER TABLE `category` DISABLE KEYS */;
38 INSERT INTO `category` VALUES ('Furniture',1),('Office Supplies',2),('Technology',
39 3);
39 /*!40000 ALTER TABLE `category` ENABLE KEYS */;
40 UNLOCK TABLES;
41 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
42
43 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
44 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
45 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
46 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
47 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
48 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
49 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
50
51 -- Dump completed on 2024-02-14 20:48:57
52
```

~/Downloads/SQL_project-main/superstore_segment.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `segment`
20 --
21
22 DROP TABLE IF EXISTS `segment`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `segment` (
26   `Segment` varchar(255) DEFAULT NULL,
27   `Segment_ID` int NOT NULL,
28   PRIMARY KEY (`Segment_ID`)
29 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
30 /*!40101 SET character_set_client = @saved_cs_client */;
31
32 --
33 -- Dumping data for table `segment`
34 --
35
36 LOCK TABLES `segment` WRITE;
37 /*!40000 ALTER TABLE `segment` DISABLE KEYS */;
38 INSERT INTO `segment` VALUES ('Consumer',1),('Corporate',2),('Home Office',3);
39 /*!40000 ALTER TABLE `segment` ENABLE KEYS */;
40 UNLOCK TABLES;
41 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
42
43 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
44 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
45 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
46 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
47 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
48 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
49 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
50
51 -- Dump completed on 2024-02-14 20:48:55
52
```


~/Downloads/SQL_project-main/superstore_country.sql

```
1  -- MySQL dump 10.13  Distrib 8.0.36, for Win64 (x86_64)
2  --
3  -- Host: localhost    Database: superstore
4  -- -----
5  -- Server version    8.3.0
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10 /*!50503 SET NAMES utf8 */;
11 /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12 /*!40103 SET TIME_ZONE='+00:00' */;
13 /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14 /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15 /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16 /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18 --
19 -- Table structure for table `country`
20 --
21
22 DROP TABLE IF EXISTS `country`;
23 /*!40101 SET @saved_cs_client      = @@character_set_client */;
24 /*!50503 SET character_set_client = utf8mb4 */;
25 CREATE TABLE `country` (
26   `Country_ID` int NOT NULL,
27   `Country` varchar(255) DEFAULT NULL,
28   PRIMARY KEY (`Country_ID`)
29 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
30 /*!40101 SET character_set_client = @saved_cs_client */;
31
32 --
33 -- Dumping data for table `country`
34 --
35
36 LOCK TABLES `country` WRITE;
37 /*!40000 ALTER TABLE `country` DISABLE KEYS */;
38 INSERT INTO `country` VALUES (1,'United States');
39 /*!40000 ALTER TABLE `country` ENABLE KEYS */;
40 UNLOCK TABLES;
41 /*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;
42
43 /*!40101 SET SQL_MODE=@OLD_SQL_MODE */;
44 /*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
45 /*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
46 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
47 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
48 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
49 /*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;
50
51 -- Dump completed on 2024-02-14 20:48:56
52
```