

Clothing Store Database Assignment

By Artemis Lee,
Kyron Trinh,
Theebika Pirabakaran



Images credit : Flaticon.com



Index

1. Problem Statement
2. Solution Statement
3. ERD
4. Business Rules
5. Normalization
6. Table Creation, Insertion and Scenarios
7. Final Thoughts

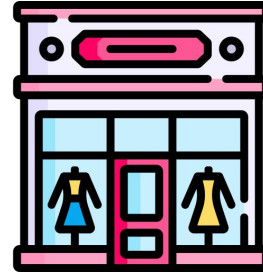
Problem Statement

A clothing store

- various styles, colours and sizes.

Scope:

1. **Brand new** clothing store
 - Little pre-existing infrastructure / systems
 - Thus, other software systems will also be selected from scratch
 - Very little pre-existing data
 - Will pretend ~1 years has passed to show off database
2. **Brick and mortar** only
 - Potentially online front later
 - No plans for franchising/large expansion



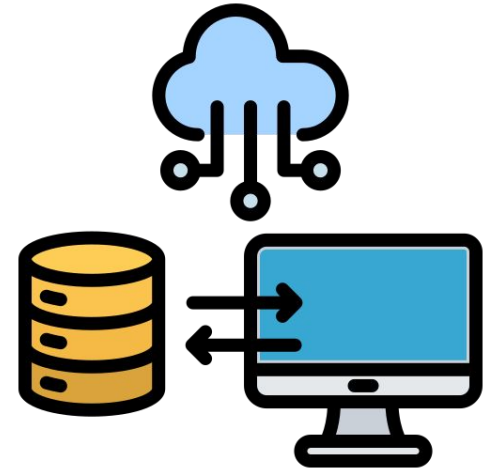
Images credit : Flaticon.com



Solution Proposal

Will be an SQL Database on the Oracle SQL Developer RDBMS.

- To administrate the Organization and Staff:
 - Employee
 - Job Class
- To record information on Customers and Sales
 - Address
 - Customer,
 - Sale order
 - Sale Order Lines



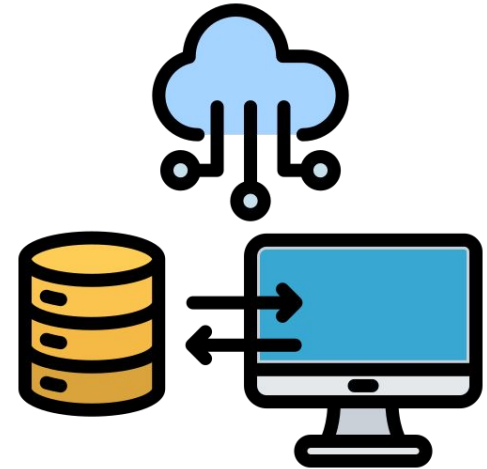
Images credit : Flaticon.com



Solution Proposal

Will be an SQL Database on the Oracle SQL Developer RDBMS.

- To manage Products and Inventory:
 - Brand
 - Product
 - Product Variant
 - Inventory
- To document Manufacturers and Supplies
 - Address
 - Manufacturer
 - Supply Order
 - Supply Order Lines



Images credit : Flaticon.com

Solution Proposal

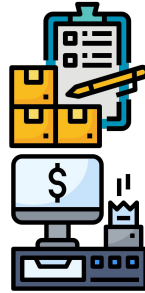
The SQL database will pass and receive data from software that handles:



Employee Scheduling

Payroll

HR/Reporting



Point of Sale (POS)

Inventory Management

Images credit :
Flaticon.com

Ultimately, the database will allow the business to operate over a long period of time while accumulating large amounts of data

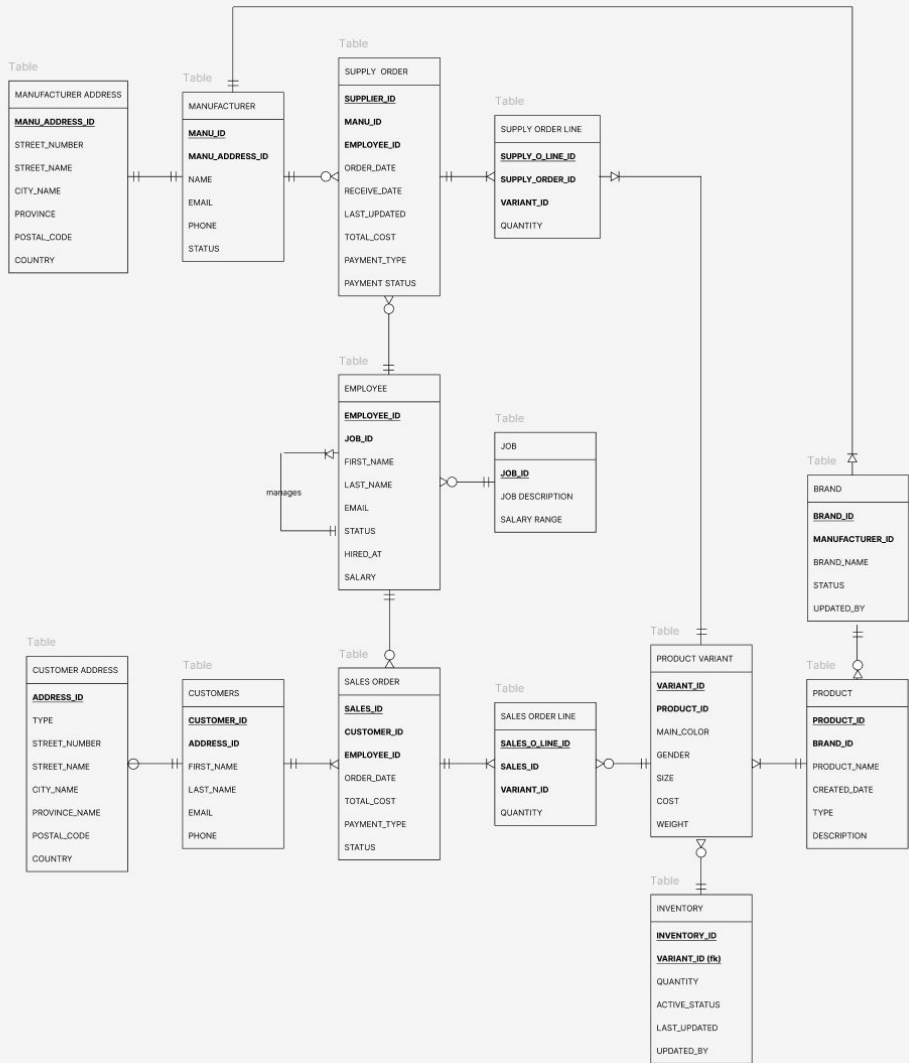
Entity Relationship Diagram (ERD)





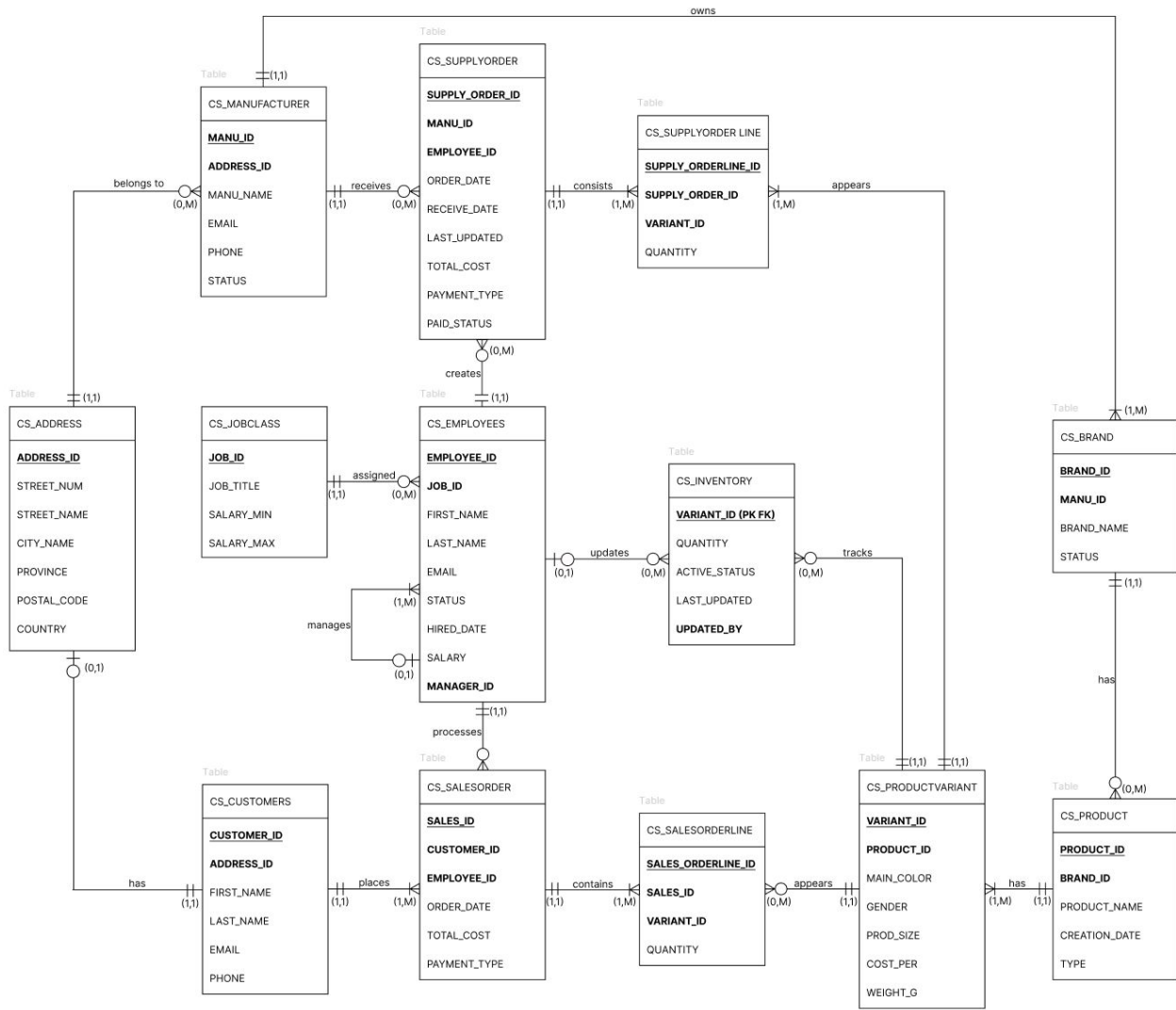
ERD

First Iteration





Final ERD

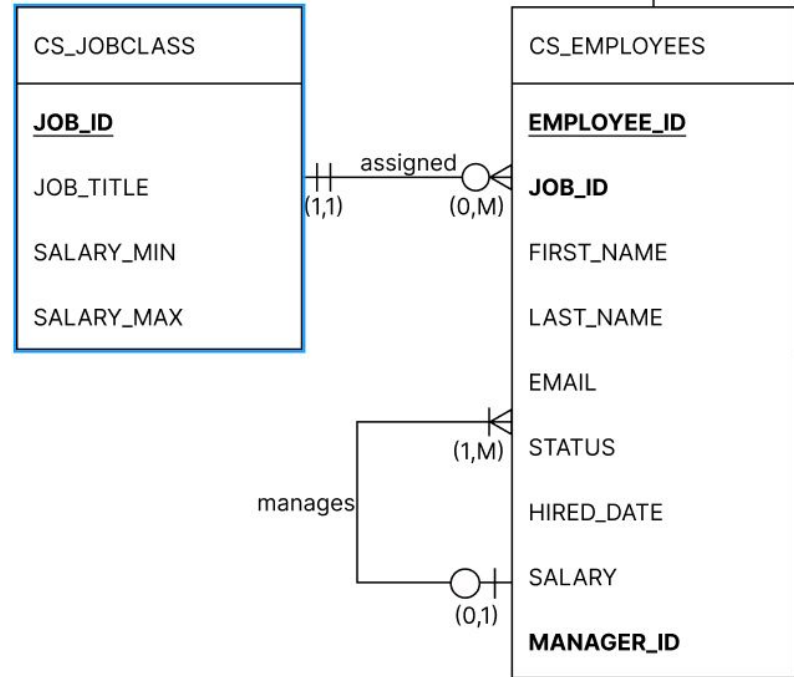


Business Rules



Organization and Staff

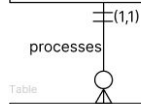
- Each employee is assigned exactly one job class; each job class can have zero or many employees.
- Each employee is managed by a manager; a manager will manage at least themselves, and can manage many more employees.



Organization and Staff

- Each sales order is processed by exactly one employee; an employee can process zero or many sales orders.

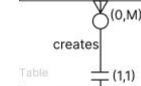
CS_EMPLOYEES
<u>EMPLOYEE_ID</u>
JOB_ID
FIRST_NAME
LAST_NAME
EMAIL
STATUS
HIRED_DATE
SALARY
MANAGER_ID



CS_SALESORDER
<u>SALES_ID</u>
CUSTOMER_ID
EMPLOYEE_ID
ORDER_DATE
TOTAL_COST
PAYMENT_TYPE

- Each supply order is created/updated by exactly one employee; an employee can create/update zero or many supply orders

CS_SUPPLYORDER
<u>SUPPLY_ORDER_ID</u>
MANU_ID
EMPLOYEE_ID
ORDER_DATE
RECEIVE_DATE
LAST_UPDATED
TOTAL_COST
PAYMENT_TYPE
PAID_STATUS

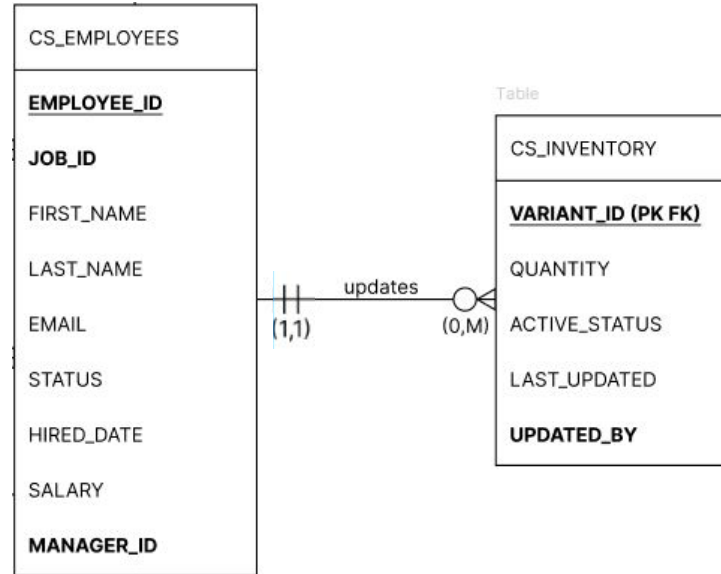


CS_EMPLOYEES
<u>EMPLOYEE_ID</u>
JOB_ID
FIRST_NAME
LAST_NAME
EMAIL
STATUS
HIRED_DATE
SALARY
MANAGER_ID



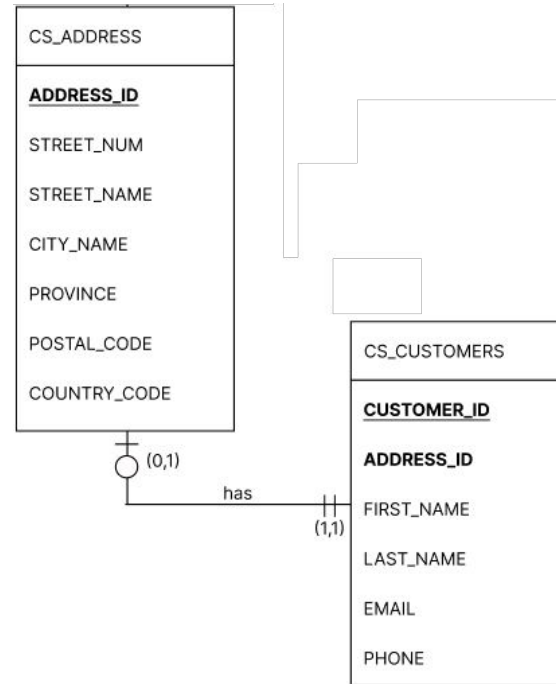
Organization and Staff

- Each inventory record is updated by exactly one employee; an employee can update zero or many inventory records.



Customers and Orders

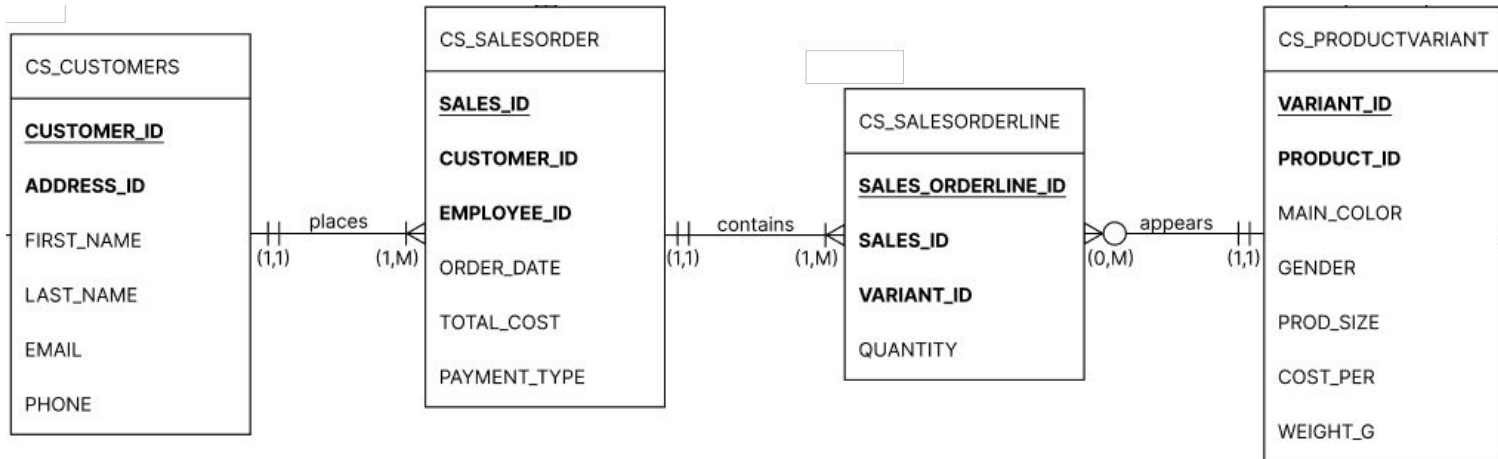
- A customer can have one or no address; each address belongs to exactly one customer





Customers and Orders

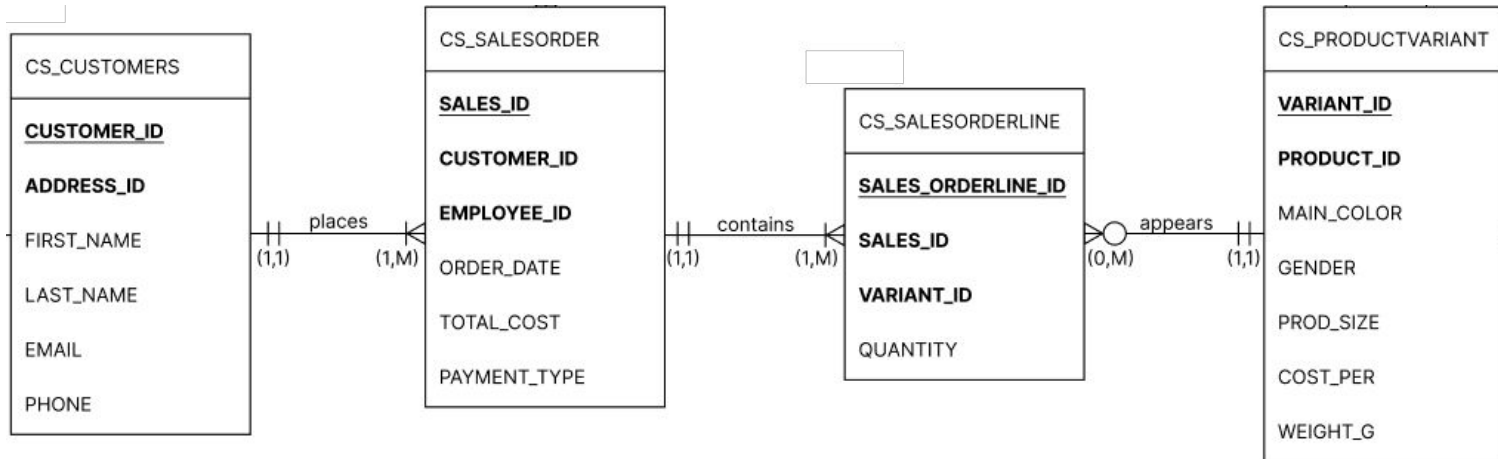
- A customer must place at least one sales order; each sales order must be associated with exactly one customer.
- Each sales order contains one or many sales order lines; each sales order line belongs to exactly one sales order.





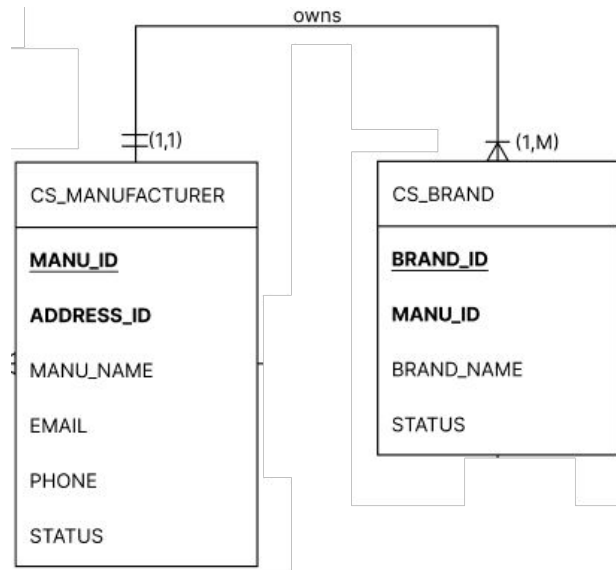
Customers and Orders

- Each sales order line refers to exactly one product variant; a product variant can appear on zero or many sales order lines



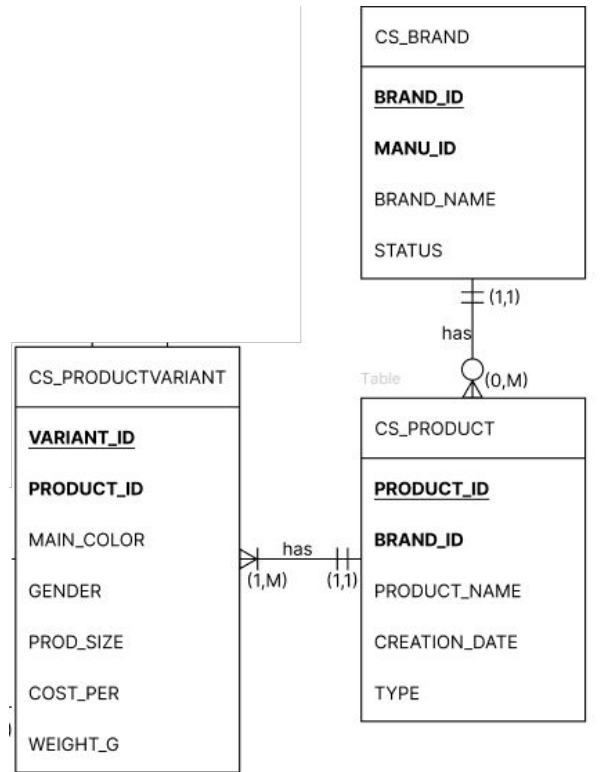
Products and Inventory

- Each manufacturer owns at least one brand; each brand is owned by exactly one manufacturer



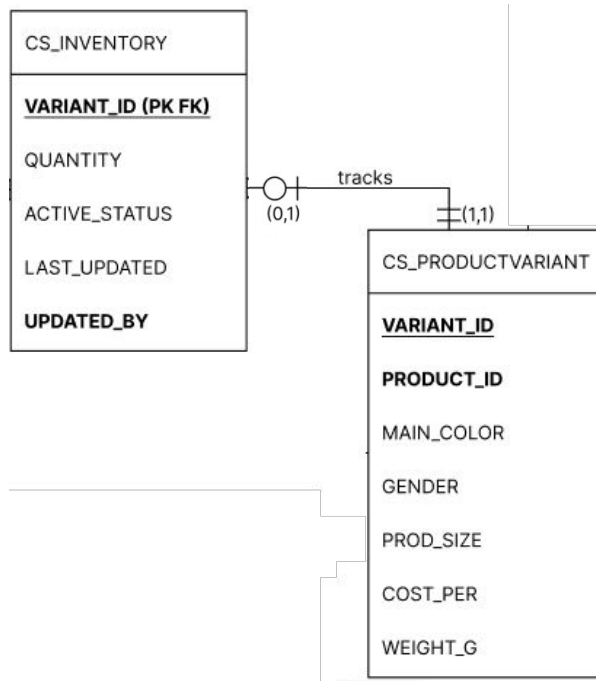
Products and Inventory

- Each brand has zero or many products; each product is a part of exactly one brand.
- Each product has at least one product variant (size, colour, gender); each variant is a part of exactly one product.



Products and Inventory

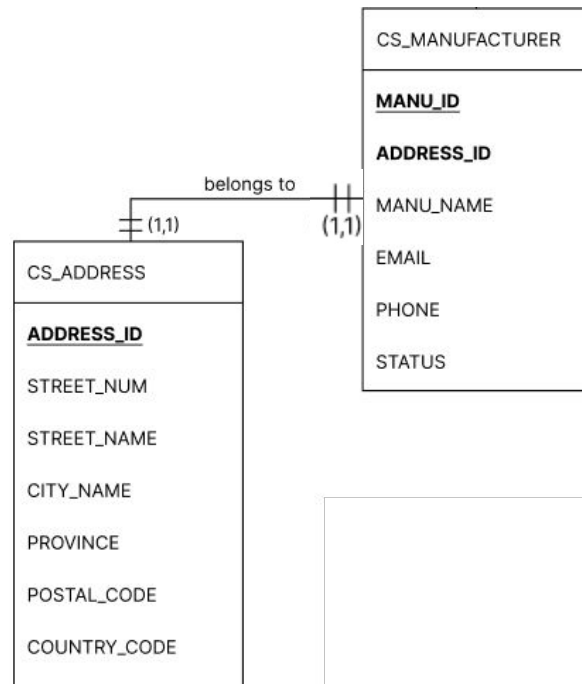
- Each product variant appears in zero or one inventory record and each inventory record tracks exactly one product variant





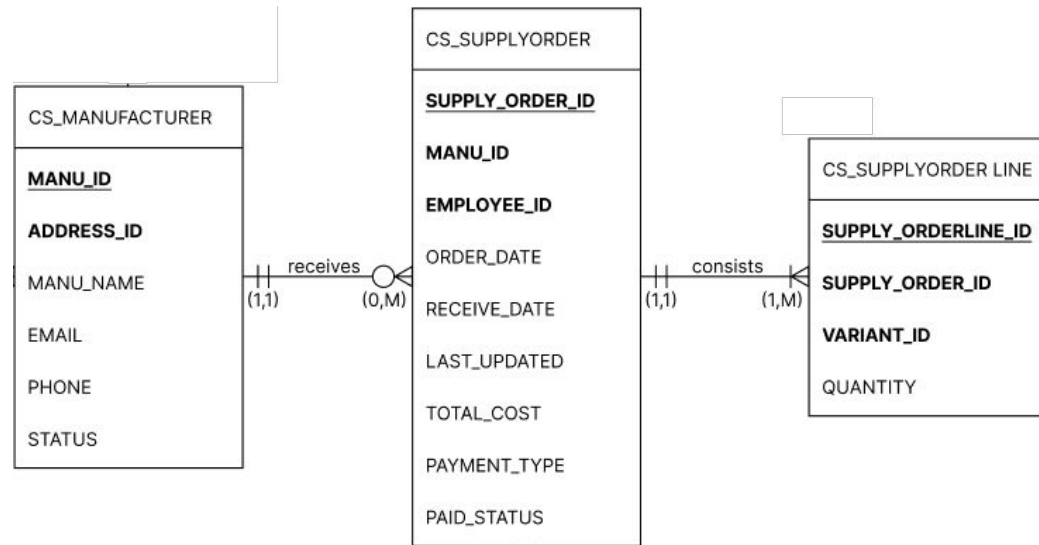
Manufacturers and Supply

- A manufacturer can have exactly one address; each address belongs to exactly one manufacturer.



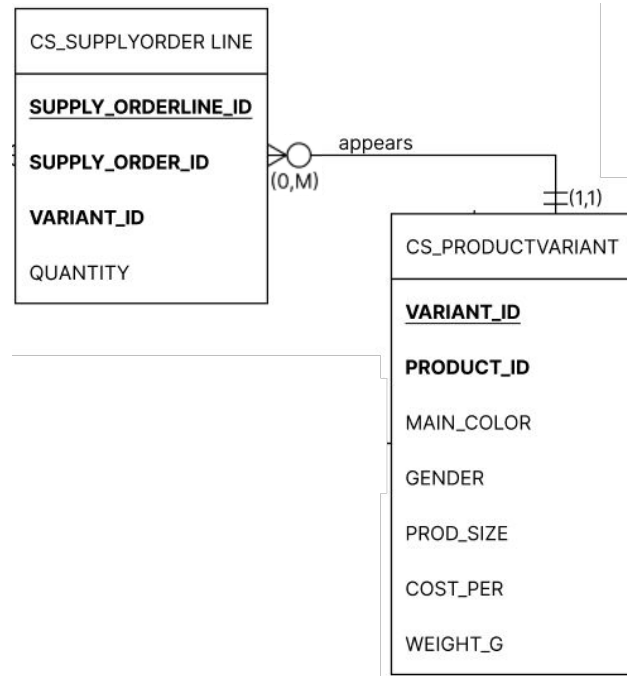
Manufacturers and Supply

- A supply order is placed with exactly one manufacturer; a manufacturer can receive zero or many supply orders.
- Each supply order contains one or many supply order lines; each supply order line belongs to exactly one supply order.



Manufacturers and Supply

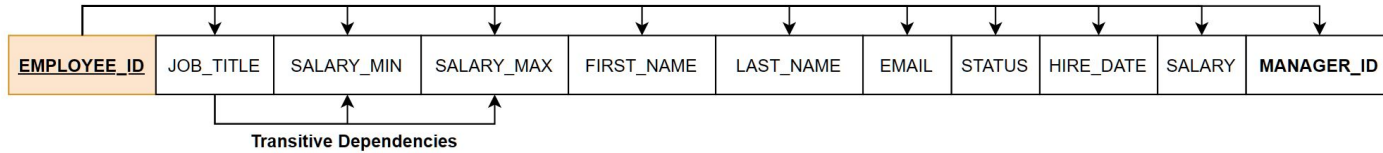
- Each supply order line refers to exactly one product variant; a product variant can appear in zero or many supply order lines.



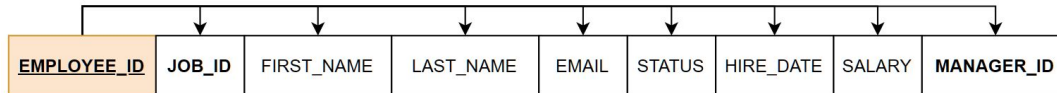
Normalization Strategies

Employee and Job

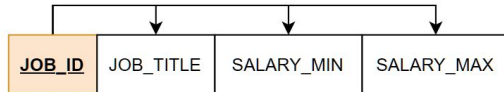
EMPLOYEE



EMPLOYEE

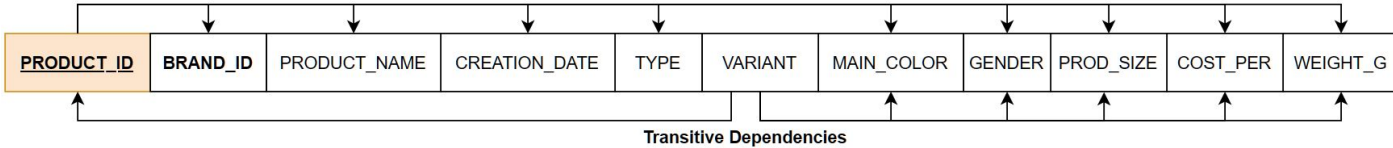


JOB

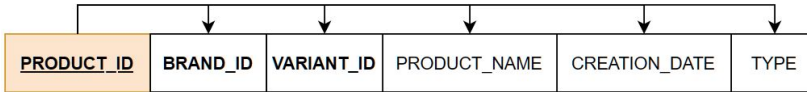


Product and Product Variant

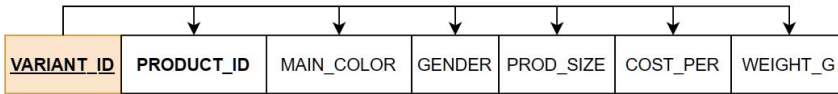
PRODUCT



PRODUCT

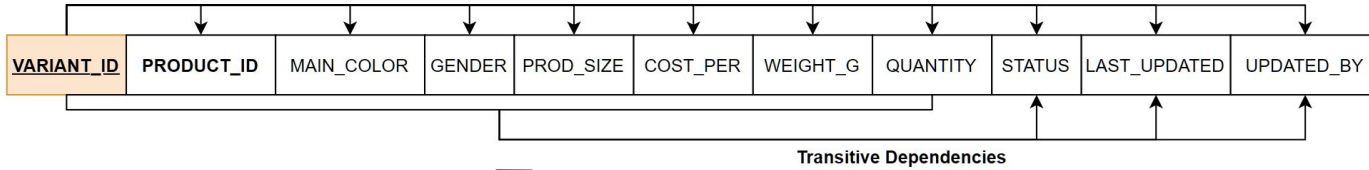


PRODUCT VARIANT

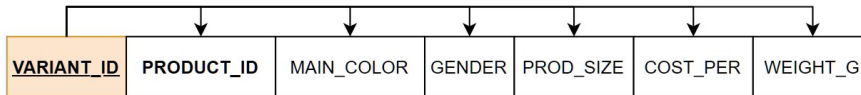


Product Variant and Inventory

PRODUCT VARIANT



PRODUCT VARIANT



INVENTORY

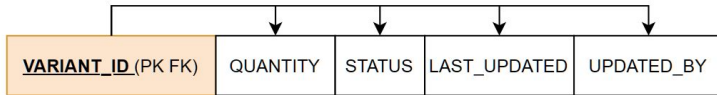




Table Creation, Table Insertions, and Table Query Scenarios





Final Thoughts





Thanks!

Any questions?

