CSD2206 Term Project

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Term 01

Contents

COMPANY OVERVIEW AND PRODUCT 2

COMPANY NAME 2
COMPANY DESCRIPTION 2
PRODUCT 2
PRODUCT ATTRIBUTE 3

CUSTOMER INVOICE 4

ENTITY RELATIONSHIP DIAGRAMS 5

MANY TO MANY RELATIONSHIP (NOT RESOLVED) 5
MANY TO MANY RELATIONSHIP (RESOLVED) 6

RELATIONAL MODEL & BUSINESS RULES 7

Company Overview and Product

Company Name

HumidCare

Company Description

At HumidCare Solutions, we specialize in providing top-of-the-line dehumidifiers to transform your living spaces into comfortable, moisture-free environments. With a commitment to innovation and customer satisfaction, we offer a curated selection of cutting-edge solutions designed to address a variety of humidity-related concerns.

Explore our online platform to discover a range of high-performance dehumidifiers meticulously chosen to suit your specific needs. From combating mold and mildew to improving indoor air quality, HumidCare Solutions is your trusted partner in creating healthier and more comfortable living spaces.

We take pride in offering not just products, but solutions that make a meaningful impact on your daily life. Our user-friendly website ensures a seamless shopping experience, providing detailed product information and expert guidance to help you make informed decisions.

At HumidCare Solutions, customer satisfaction is our priority. Our dedicated team is ready to assist you every step of the way, ensuring that you receive not only a quality dehumidifier but also unparalleled service. Take the first step towards a drier, more comfortable environment – choose HumidCare Solutions for all your dehumidification needs.

Product

Dehumidifiers

Product Attribute

- Product Code – Primary Key
- Model Number
- Brand
- Type
- Serial Number
- Description
- Size
- Weight
- Color
- Height
- Width
- Price

Customer Invoice

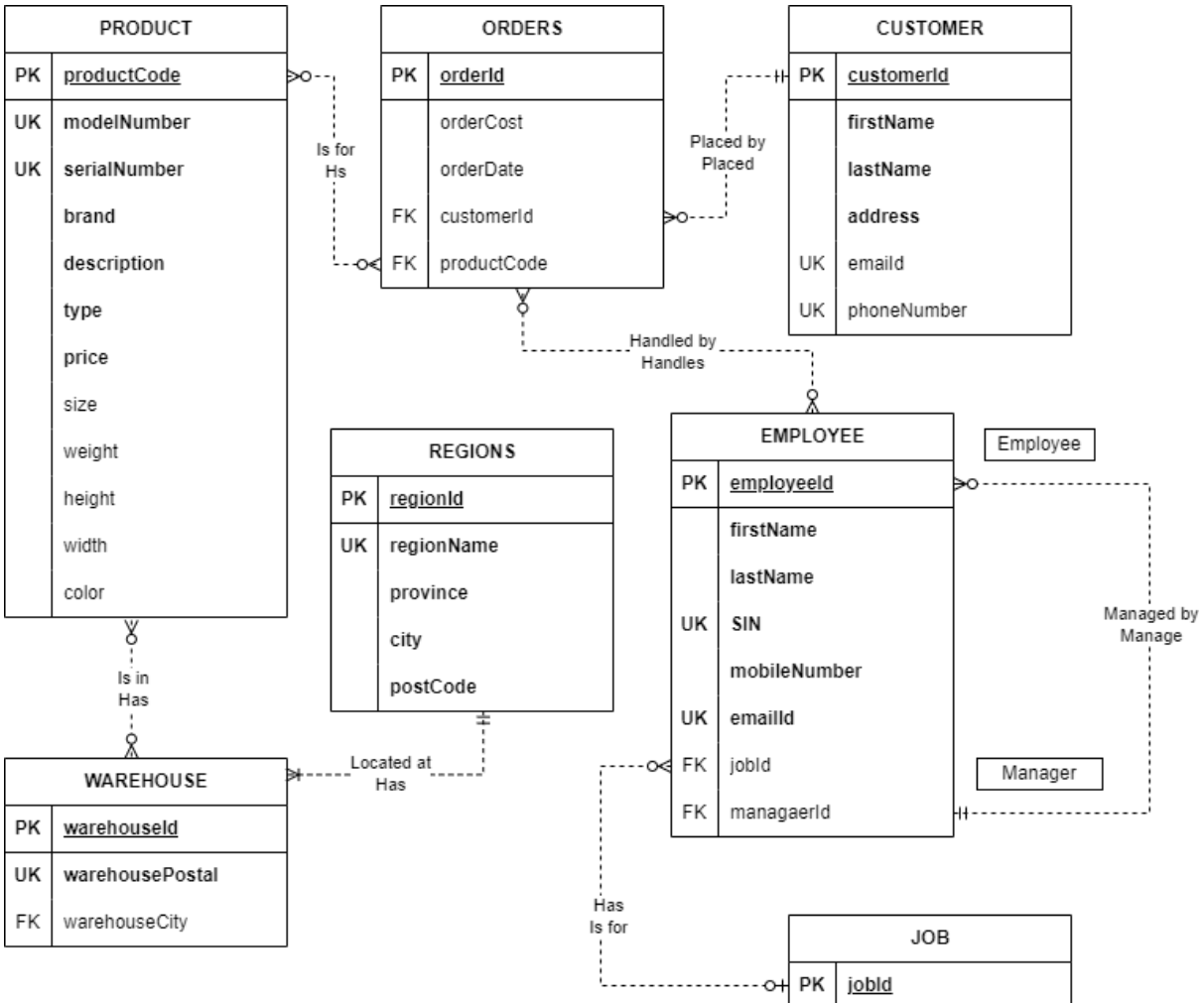
HumidCare
371 Main Street
Ottawa, ON N7L 4T3
Canada
545-558-8520

Customer ID:	#1920	Order ID:	3948
Customer Name:	L. Mason	Order Date:	02-03-2024
Customer Address:	1234 Kellman Street Toronto, ON J7P 4F5 Canada	Associate ID:	443
		Associate Name:	M. Jon

Product Code	Model	Brand	Description	Qty	Unit Price	Total Price
L324	DH3009	Dehumify	Efficient Moisture Removal	2	59.9	119.8
K859	DH4678	Dehumify	Quiet Operation Technology	3	159.5	478.5
P7389	FK2532	FanHum	Space-saving Design	1	34.99	34.99
P7340	FK2598	FanHum	Space-saving Design	1	36.99	36.99
P7391	FK2267	FanHum	Max Space Design	2	134.99	269.98
				Sub-total		389.78
				Tax		62.205
				Invoice Total		451.985

Entity Relationship Diagrams

Many to Many Relationship (Not Resolved)



A **PRODUCT MAY** be in 0, 1 or more **ORDERS**
A **ORDER MAY** have 0, 1 or more **PRODUCTS**

A **ORDER MUST** have one and only **CUSTOMER**
A **CUSTOMER MAY** have 0, 1 or more **ORDERS**

A **PRODUCT MAY** be in 0, 1 or more **WAREHOUSES**
A **WAREHOUSE MAY** contain 0, 1, or more **PRODUCTS**

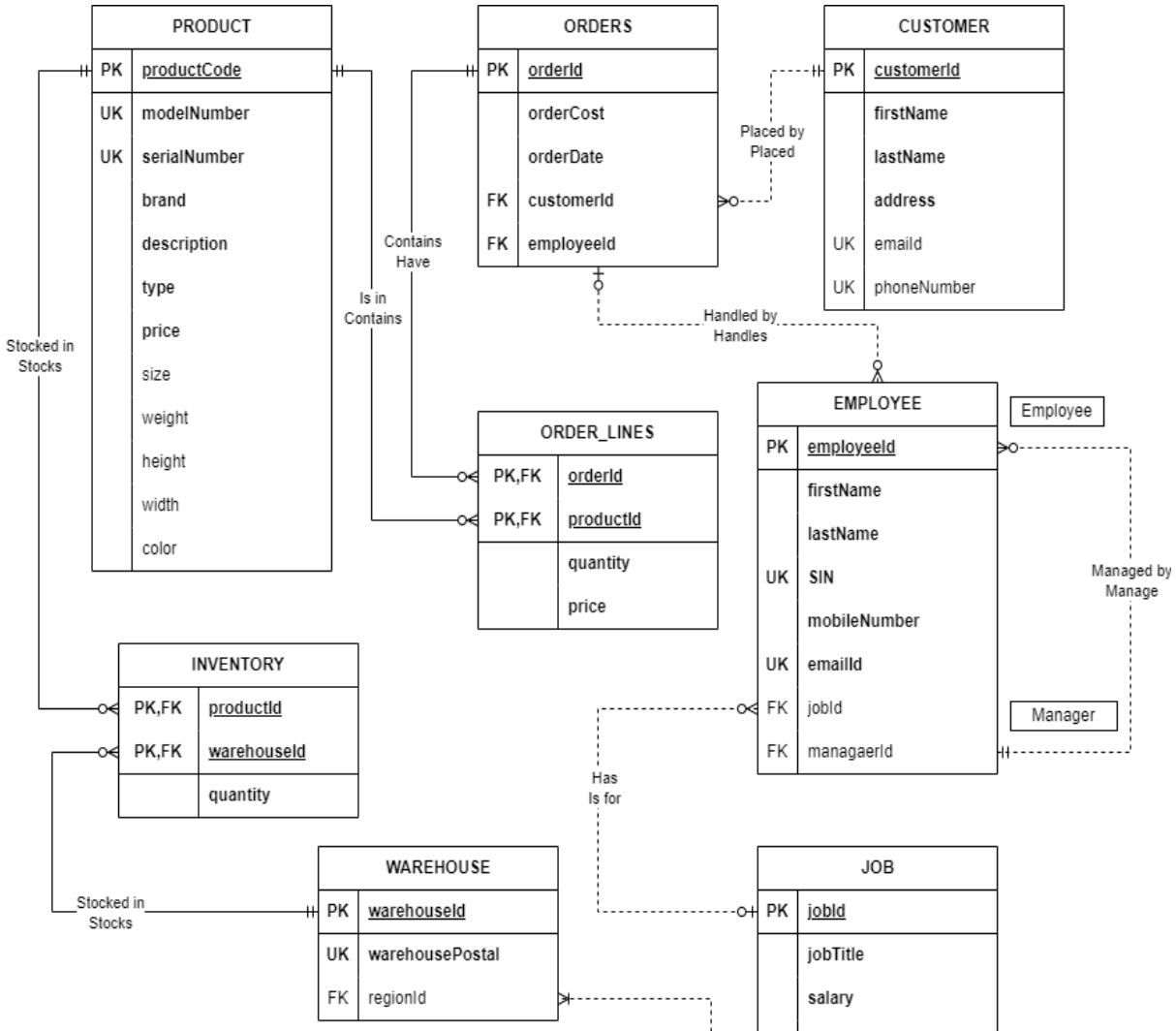
A **WAREHOUSE MUST** be in one and only **REGION**
A **REGION MAY** have 0, 1 or more **WAREHOUSES**

An **ORDER MAY** be handled by 0, 1 or more **EMPLOYEES**
An **EMPLOYEE MAY handle** 0, 1 or more **ORDERS**

An **EMPLOYEE MAY** have a 0 or one **JOB**
A **JOB MAY** be done by 0, 1 or more **EMPLOYEE**

An **EMPLOYEE MUST** be managed by one and only one **MANAGER**
A **MANAGER MAY** manage 0, 1 or more **EMPLOYEES**

Many to Many Relationship (Resolved)



A PRODUCT MAY be in 0, 1 or more ORDER_CHECKOUT
A ORDER_CHECKOUT MUST have one and only one PRODUCT

A ORDER_CHECKOUT MUST have one and only one ORDER
A ORDER MAY have 0, 1 or more ORDER_CHECKOUT

A ORDER MUST have one and only CUSTOMER
A CUSTOMER MAY have 0, 1 or more ORDERS

A PRODUCT MAY stocked be in 0, 1 or more INVENTORY
A INVENTORY MUST stock have one and only one PRODUCT

A INVENTORY MUST be stocked in one and only one WAREHOUSE
A WAREHOUSE MAY contain 0, 1, or more INVENTORY

A WAREHOUSE MUST be in one and only REGION
A REGION MAY have 0, 1 or more WAREHOUSES

An ORDER MUST be handled by one and only one EMPLOYEES
An EMPLOYEE MAY handle 0, 1 or more ORDERS

An EMPLOYEE MAY have a 0 or one JOB
A JOB MAY be done by 0, 1 or more EMPLOYEE

An EMPLOYEE MUST be managed by one and only one MANAGER
A MANAGER MAY manage 0, 1 or more EMPLOYEES

Relational Model & Business Rules

PRODUCTS				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK	*	productCode	integer	
UK	*	modelNumber	varchar	30
UK	*	serialNumber	varchar	30
	*	brand	varchar	20
	*	description	varchar	100
	*	type	varchar	20
	*	price	decimal	10,2
	O	size	decimal	10,2
	O	weight	decimal	10,2
	O	height	decimal	10,2
	O	width	decimal	10,2
	O	color	varchar	10

ORDERS				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK	*	orderId	integer	
	*	orderCost	decimal	10,2
	*	orderDate	date	
FK	*	customerId	integer	
FK	*	employeeId	integer	

ORDER_LINES				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK,FK	*	orderId	integer	
PK,FK	*	productId	integer	
	*	quantity	decimal	10,2
	*	price	decimal	10,2

CUSTOMER				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK	*	customerId	integer	
	*	firstName	varchar	30
	*	lastName	varchar	30
	*	address	varchar	50
UK	O	emailId	varchar	20
UK	O	phoneNumber	varchar	10

EMPLOYEE				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK	*	employeeId	integer	
	*	firstName	varchar	30
	*	lastName	varchar	30
UK	*	SIN	integer	10
	*	mobileNumber	varchar	10
UK	*	emailId	varchar	20
FK	O	jobId	integer	
FK	O	managerId	integer	

JOB				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK	*	jobId	integer	
	*	jobTitle	varchar	30
	*	salary	decimal	10,2
	O	servicePeriod	decimal	60,2

INVENTORY				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK,FK	*	productId	integer	
PK,FK	*	warehouseId	integer	
	*	quantity	decimal	10,2

WAREHOUSE				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK	*	warehouseId	integer	
UK	*	warehousePostal	varchar	20
FK	O	regionId	varchar	20

REGIONS				
KEY	**OPTIONALITY**	**COLUMN NAME**	**DATA TYPE**	**LENGTH**
PK	*	regionId	varchar	20
UK	*	regionName	varchar	20
	*	province	varchar	20
	*	city	varchar	20
	*	postCode	varchar	20

PRODUCTS(**productCode**, modelNumber, serialNumber, brand, description, type, price, size, weight, height, width, color)

ORDERS(**orderId**, orderCost, orderDate, customerId, employeeId)

FK customerId → CUSTOMER
FK employeeId → EMPLOYEE

ORDER_LINES(**orderId**, **productId**, quantity, price)

FK orderId → ORDERS

FK productid → PRODUCTS

CUSTOMER(**customerId**, firstName, lastName, address, emailId, phoneNumber)

EMPLOYEE(**employeeId**, firstName, lastName, SIN, mobileNumber, emailId, jobId, managerId)

FK jobId → JOB

FK managerId → EMPLOYEE

JOB(**jobId**, jobTitle, salary, servicePeriod)

INVENTORY(**productid**, **warehouseId**, quantity)

FK productid → PRODUCTS

FK warehouseId → WAREHOUSE

WAREHOUSE(**warehouseId**, warehousePostal, regionId)

FK regionId → REGIONS

REGIONS(**regionId**, regionName, province, city, postCode)

Auto-generated columns: Automatically generated unique identifier for each record with respect to their table.

PRODUCTS: productCode

ORDERS: orderId

CUSTOMER: customerId

EMPLOYEE: employeeId

JOB: jobId

WAREHOUSE: warehouseId

REGIONS: regionId

Restrictions to column values.

JOB: salary, default to 20,000

JOB: salary, ranges between 20,000 to 1,50,000