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GUIDED BY - MR SAMEER WARSOLKAR SIR

This project focuses on developing an efficient inventory management system using SQL The primary aim is to analyze and manage inventory levels, track stock movements, and optimize supply chain operations to ensure that products are available when needed while minimizing holding costs.

The dataset encompasses various attributes, including product details, stock quantities, supplier information, and transaction history. By employing SQL queries, we will perform key operations such as joins to consolidate data from multiple tables, subqueries to extract specific insights, and aggregate functions to monitor inventory performance over time.

This project will demonstrate the importance of data-driven decision-making in inventory management, allowing businesses to streamline operations, reduce waste, and enhance customer satisfaction. Ultimately, the findings and analysis presented will serve as a valuable resource for stakeholders looking to improve their inventory practices through effective database management and querying techniques.

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Inventory management system

Objective

To develop a comprehensive inventory management system that enhances the accuracy and efficiency of inventory tracking, optimizes stock management, and provides real-time insights into inventory levels and sales trends, ultimately leading to improved decision-making and cost savings for the organization

Components:

Address: this table contain the information of region name ,country name ,state, city ,postal code ,warehouse address ,warehouse name of warehouse

Customer: this table contain the information of customer name, customer address, customer email,

Customer phone, status, order date, per price unit and total item quantity and order id.

Employee: this table contain the information about employee where employee name, employee email

Employee phone, employee hir date, employee job title, order id.

Product: this table contain the information about product where category of product, product name,

Product standard cost, profit, product list price and order id.

Functionality:

warehouse management for tracking and organizing storage locations, and customer management for handling customer records and order histories. Implement employee management to oversee staff details and performance related to orders. The product management feature will allow for easy addition, updating, and categorization of inventory items. Additionally, integrate order processing to create and update orders while calculating total values. Inventory tracking will monitor stock levels and trigger alerts for low inventory. Finally, provide sales reporting capabilities to analyze trends and performance metrics, ensuring data integrity and security throughout the system.

Aim

The aim of this inventory management system project is to develop a comprehensive, efficient, and user-friendly solution that streamlines the tracking and management of inventory, orders, customers, and employees. The system seeks to provide real-time visibility into stock levels, facilitate effective order processing, and enhance decision-making through detailed analysis and reporting capabilities. Ultimately, the project aims to improve operational efficiency, reduce costs, and enhance customer satisfaction by ensuring timely and accurate inventory management.

ER DAIGRAM

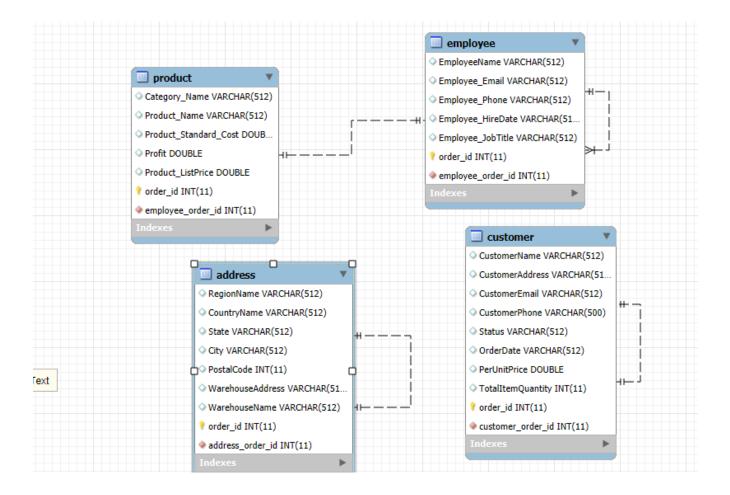


Table descriptions:

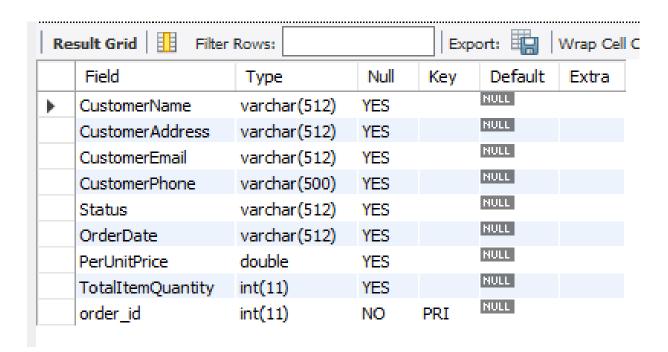
1 employee

esult Grid 🔢 Filter F	Rows:		Expo	rt: 📳 V	Vrap Cell (Conte
Field	Туре	Null	Key	Default	Extra	
EmployeeName	varchar(512)	YES		NULL		
Employee_Email	varchar(512)	YES		NULL		
Employee_Phone	varchar(512)	YES		NULL		
Employee_HireDate	varchar(512)	YES		NULL		
Employee_JobTitle	varchar(512)	YES		NULL		
order_id	int(11)	NO	PRI	NULL		

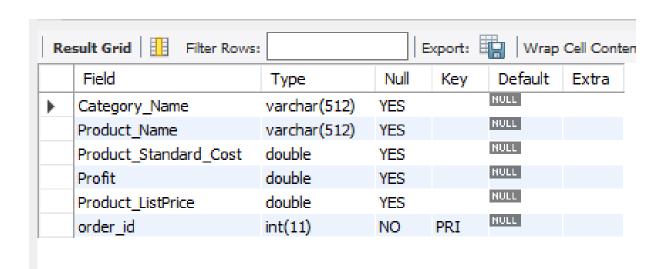
2 address

Result Grid Filter Rows: Export:						
	Field	Type	Null	Key	Default	
>	RegionName	varchar(512)	YES		NULL	
	CountryName	varchar(512)	YES		NULL	
	State	varchar(512)	YES		NULL	
	City	varchar(512)	YES		NULL	
	PostalCode	int(11)	YES		NULL	
	WarehouseAddress	varchar(512)	YES		NULL	
	WarehouseName	varchar(512)	YES		NULL	
	order_id	int(11)	NO	PRI	NULL	
	li an					

3 customer



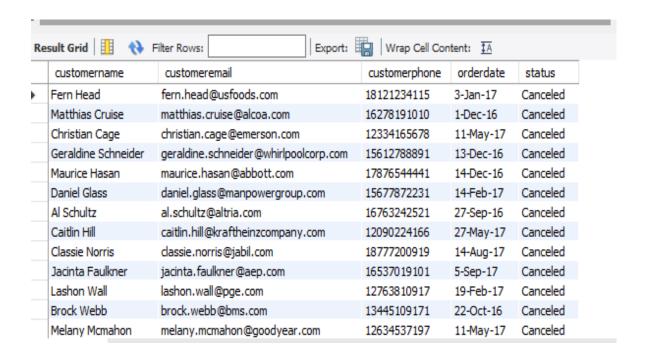
4 product



QUERIES:

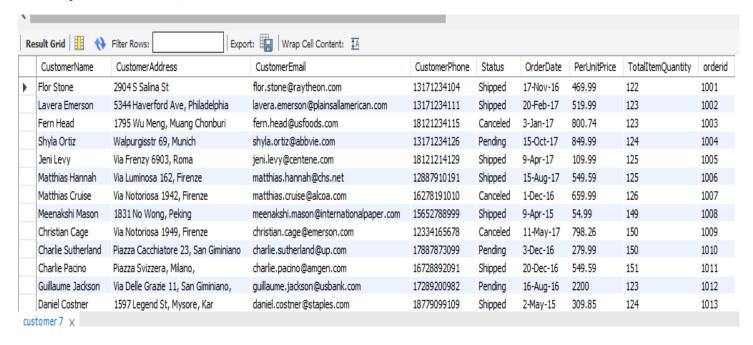
1 find the customer who have canceled orders

Select, customeremail, customer phone, orderdate from customer where status="canceled";



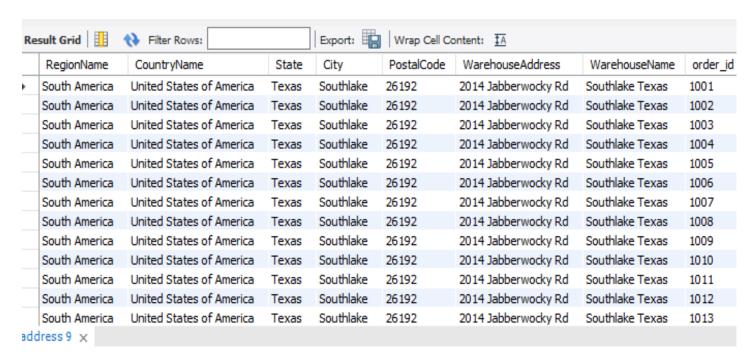
2 retrive all customer data

Select*from customer;



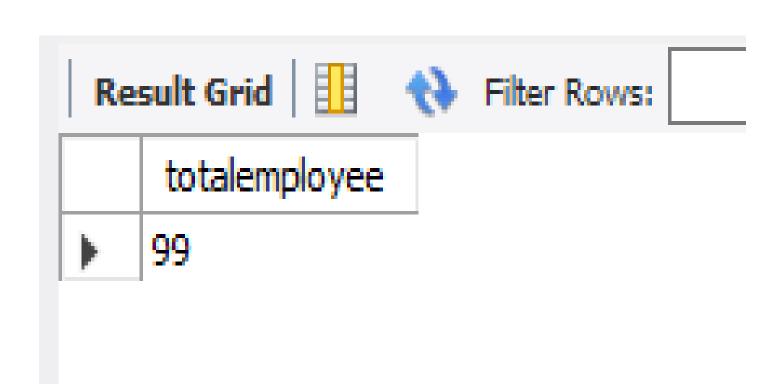
3 find address in south America

Select*from address where regionname="south america";



4 total number of employee

Select count(*) as totalemployee from employee;



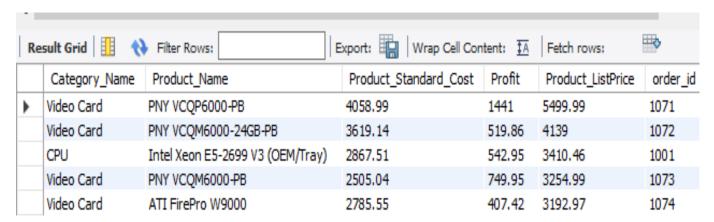
5 show the employee whose name is starting from s

select employeename from employee where employeename like"s%";



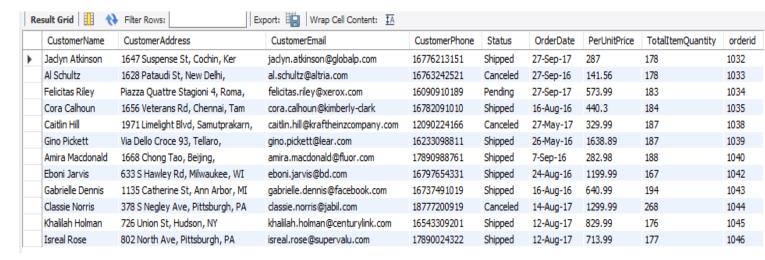
6 get top 5 most expensive products

select*from product order by product listprice desc limit 5;



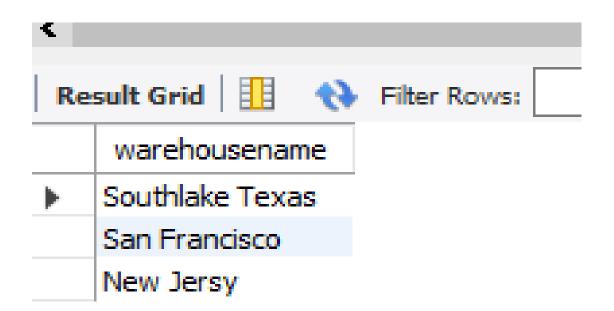
7 show the details of customer who have buy more than 160 quantity

Select*from cutomer where totalitem quantity>"160";



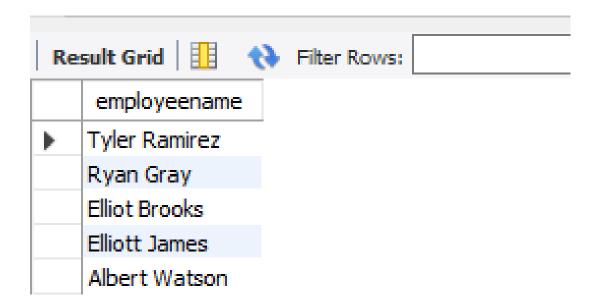
8 list unique warehouse

Select distinct warehousename from address;



9 Show employee name who is working as accountant

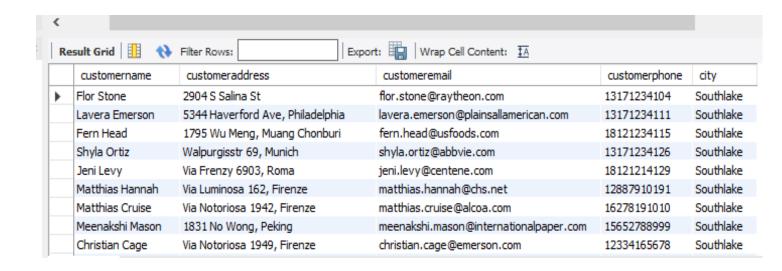
select employeename from employee where Employee_JobTitle="Accountant";



Joins:

1 To get all customer who have shipped to specific city e.g "southlake"

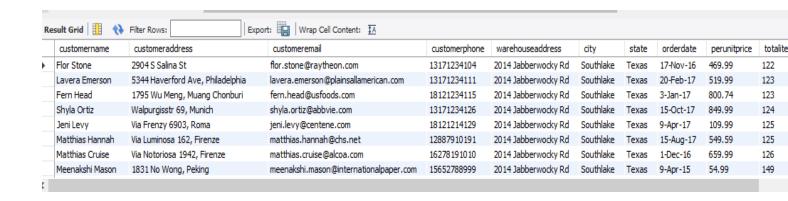
Select customername, customeraddress, customeremail, customer phone, city from customer inner join address on customer.orderid=address.order_id_where city="southlake";



2 to get detailed in formation about each order including customer details and address information

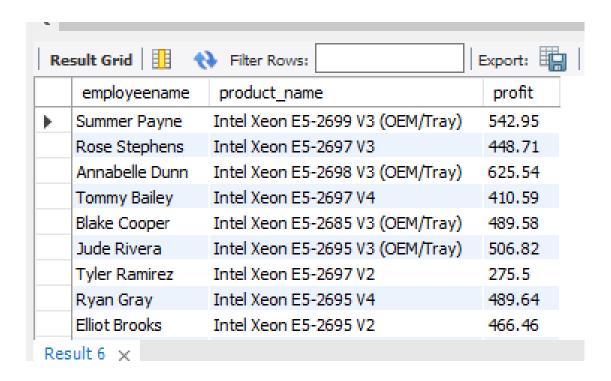
Select

customername, customeraddress, customeremail, customer phone, warehouse address, city, state, orderdate, perunit price, totalitem quantity from customer inner join address on customer. orderid=address.order_id;



3 retrive employee profit and product through inner joins

Select employeename, product_name, profit from employee inner join product on employee.orderid=product.order_id;



4 show customer name and product who canceled their product

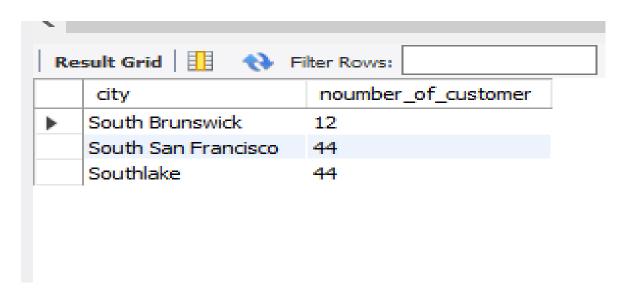
Select customername, product_name, status from customer right join product on customer.

Orderid=product.order_id where status="canceled";

customername Fern Head Matthias Cruise	Intel Xeon E5-2698 V3 (OEM/Tray) Intel Xeon E5-2697 V2	status Canceled
,		Canceled
Matthias Cruise	Intel Yean F5-2607 V2	
	ITILET VEGIT E3-2037 VZ	Canceled
Christian Cage	Intel Xeon E5-2695 V2	Canceled
Geraldine Schneider	Intel Xeon E5-2690 V4	Canceled
Maurice Hasan	Intel Xeon E5-2637 V2 (OEM/Tray)	Canceled
Daniel Glass	Intel Xeon E5-2670 V3	Canceled
Al Schultz	Intel Xeon E5-2660 V3	Canceled
Caitlin Hill	Intel Xeon E5-2650 V4	Canceled
Classie Norris	Intel Core 2 Extreme QX6800	Canceled

5 get total number of employee for each city

Select city,count(customername) as no of customer from customer join address on Customer.orderdid=address.order_id group by city;



6 Show the customer who buy product at price more than 2000

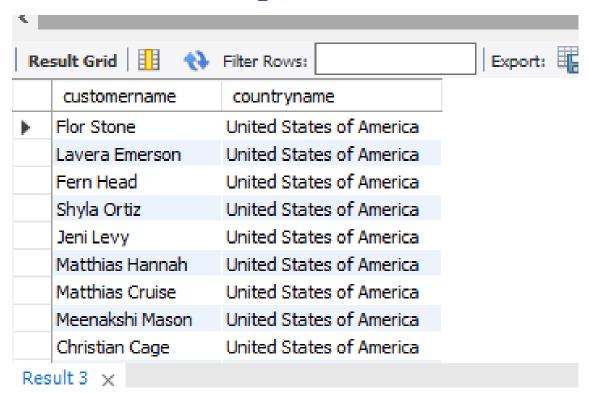
Select customername,category_name,product_standard_cost from customer left join

Product on customer.orderid =product.order_id where product_standard_cost>"2000";

Re	esult Grid 🔢 (Filter Rows:	Export: Wi
	customername	category_name	product_standard_cost
)	Flor Stone	CPU	2867.51
	Lavera Emerson	CPU	2326.27
	Fern Head	CPU	2035.18
	Shyla Ortiz	CPU	2144.4
	Jeni Levy	CPU	2012.11
	Matthias Cruise	CPU	2101.59
	Nada West	Video Card	4058.99
	Catherina Haney	Video Card	3619.14
	Harriette Melton	Video Card	2505.04
Da	eult 1 🗸		

7 Show the names of customer who have placed order and the countries they are in

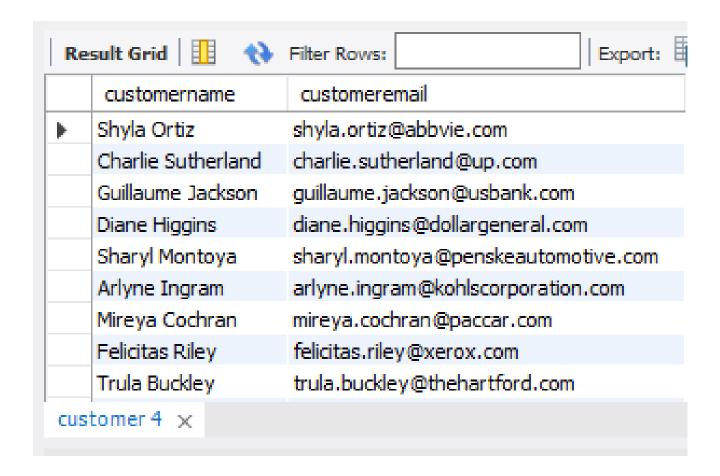
select customername, countryname from customer join address on customer.orderid=address.order_id;



SUBQUERIES:

1 LIST THE CUSTOMER WITH PENDING STATUS

Select customername, customeremail from customer where status ="pending" and orderdate in (select orderdate from customer where status ="pending");



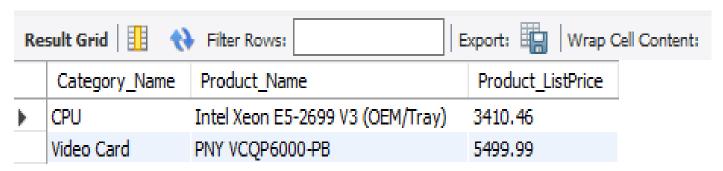
2 Find all addresses that share the same warehouse address as a specific order ID (e.g., 1045):

SELECT * FROM address WHERE WarehouseAddress = (SELECT WarehouseAddress FROM address WHERE order id = 1045

Result Grid 1								
	RegionName	CountryName	State	City	PostalCode	WarehouseAddress	WarehouseName	order_id
•	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1045
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1046
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1047
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1048
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1049
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1050
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1051
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1052
	North America	United States of America	California	South San Francisco	99236	2011 Interiors Blvd	San Francisco	1053
address 1 ×								

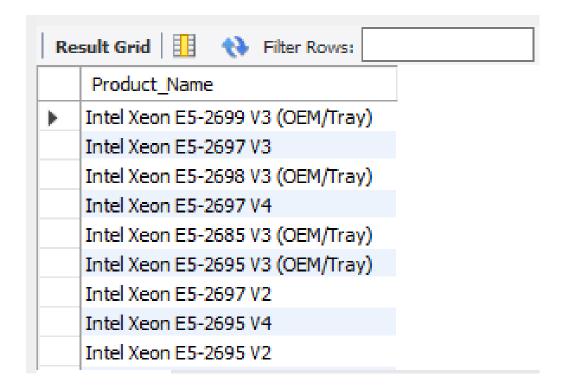
3 Get the Most Expensive Product in Each Category:

SELECT Category_Name, Product_Name, Product_ListPrice FROM product p1 WHERE Product_ListPrice = (SELECT MAX(Product_ListPrice) FROM product p2 WHERE p1.Category Name = p2.Category Name);



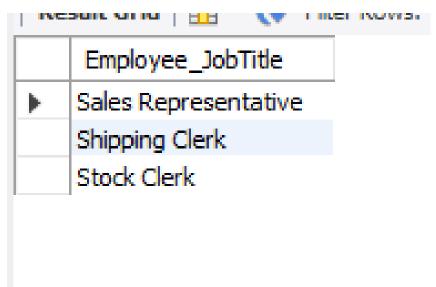
4 Find Products That Have a Higher List Price Than Their Cost

SELECT Product_Name FROM product WHERE Product_ListPrice > Product_Standard_Cost;



5 List Job Titles that Have More Employees Than the Average Number of Employees per Job Title

SELECT Employee_JobTitle FROM employee GROUP BY Employee_JobTitle HAVING COUNT(*) > (SELECT AVG(TitleCount) FROM (SELECT COUNT(*) AS TitleCount FROM employee GROUP BY Employee_JobTitle) AS TitleCounts);



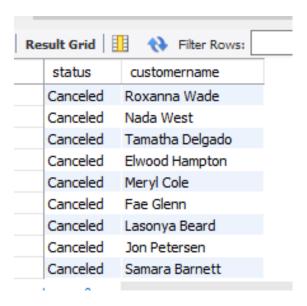
6 Count of Employees Hired in Each Job Title

SELECT Employee_JobTitle, COUNT(*) FROM employee GROUP BY Employee_JobTitle
HAVING COUNT(*) > (SELECT AVG(JobCount) FROM (SELECT COUNT(*) AS JobCount FROM
employee GROUP BY Employee_JobTitle) AS JobCounts);

Result Grid 111						
	Employee_JobTitle	COUNT(*)				
•	Sales Representative	30				
	Shipping Clerk	20				
	Stock Clerk	17				

7 Find Customers Who Have Never Canceled an Order

SELECT DISTINCT CustomerName FROM customer WHERE CustomerEmail NOT IN (SELECT CustomerEmail FROM customer WHERE Status = 'Canceled');



"I have a comprehensive dataset from SQL databases, and I would like to present some examples for your review."

In summary, this inventory management project shows how important good inventory control is for saving money and improving operations. By using real-time data, we can make better decisions and reduce costs. Keeping the system updated will help us stay efficient and grow in the future.