Bakery Project using MySQL

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Introduction

- In today's data-driven world, even small businesses like bakeries rely on insights from their data to make smarter decisions. A bakery doesn't just sell cakes and pastries, it manages **products, customers, orders, employees, and sales trends**.

- It is actually **MySQL Guided Project** and is designed to simulate real-world scenarios where a bakery owner (or analyst) wants to understand:

- Which products are selling the most?

- Who their most loyal and high-spending customers are?

- How sales are distributed across different items?

- Employee performance in terms of salary and department comparison.

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Overview

- This project progresses from simple queries (retrieving data) to advanced analytics using window functions. By the end, you'll be able to:

- Explore datasets and understand their structure.

- Calculate percentages and rankings.

- Analyze customer spending behavior.

- Compare employee salaries across departments.

- Solve business-oriented problems using SQL queries.

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Dataset Overview
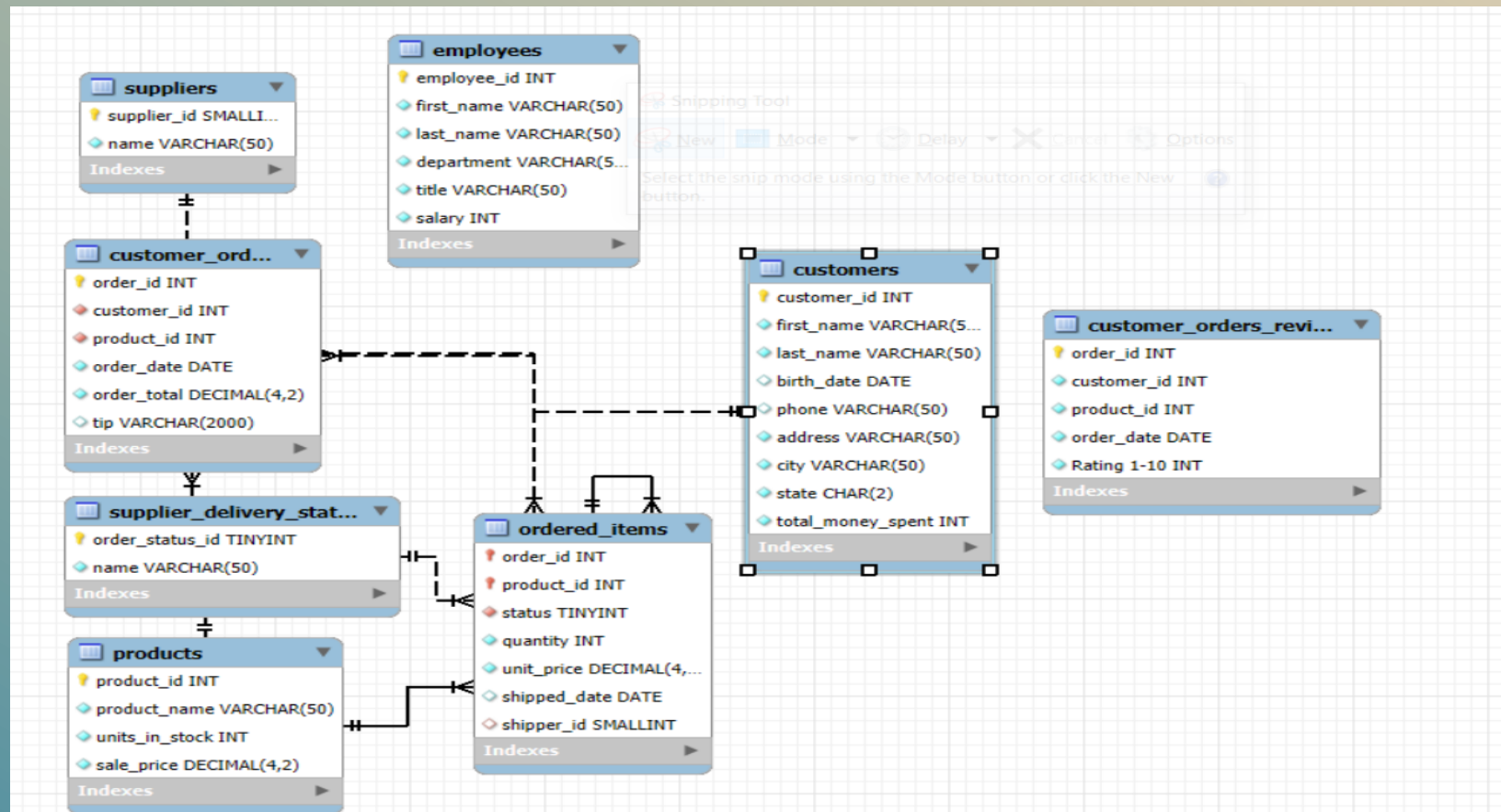
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Task 01: What columns are available, and how does the data describe product sales?
Explore the ordered_items table.

order_id	product_id	status	quantity	unit_price	shipped_date	shipper_id
1	1004	1	53	0.35	2021-08-15	1
2	1001	2	73	0.29	2022-03-21	2
2	1004	3	10	0.35	2022-02-07	5
2	1006	2	63	5.28	2021-06-09	4
3	1003	1	21	0.50	2021-09-06	1
4	1003	2	85	0.50	2022-06-22	3
4	1010	3	42	0.39	2021-05-13	4
5	1002	1	100	1.89	2022-02-03	2
6	1001	2	35	0.29	2021-11-06	3

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Task 02: Which product IDs and quantities are recorded in the dataset? Retrieve product IDs and their quantities.

product_id	quantity
1004	53
1001	73
1004	10
1006	63
1003	21
1003	85
1010	42
1002	100
1001	35

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Task 03: How much does each row contribute to overall sales? Calculate percentage contribution of each order record to total sales.

product_id	quantity	Total_Sales	percent_of_sales
1004	53	878	6.04
1001	73	878	8.31
1004	10	878	1.14
1006	63	878	7.18
1003	21	878	2.39
1003	85	878	9.68
1010	42	878	4.78
1002	100	878	11.39
1001	35	878	3.99

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Task 04: Which product contributes the most to bakery sales? Find percentage contribution of each product to total sales.

product_id	SUM(quantity)	All_Sales	percent_of_sales
1002	154	878	17.5399
1001	141	878	16.0592
1003	128	878	14.5786
1005	125	878	14.2369
1006	106	878	12.0729
1008	96	878	10.9339
1004	63	878	7.1754
1010	42	878	4.7836
1009	23	878	2.6196

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Task 05: What information is stored about customers?
Explore the customers table.

customer_id	first_name	last_name	birth_date	phone	address	city	state	total_money_spent
100101	Kevin	Malone	1989-04-28	635-573-9754	1229 Main Street	Scranton	PA	11000
100102	Charles	Xavier	1965-04-11	729-287-9456	123 North Hill Drive	Dallas	TX	947
100103	Finley	Danish	1999-02-07	126-583-7856	432 Hilly Road	Austin	TX	534
100104	Obi	Kenobi	1921-04-22	975-357-7663	101 Alpine Avenue	New York	NY	3567
100105	Don	Draper	1948-11-07	NULL	12 South Main Lane	San Francisco	CA	195
100106	Frodo	Baggins	2001-09-04	NULL	1 Pastery Lane	Chicago	IL	56
100107	Michael	Scott	1978-08-20	235-357-3464	987 Croissant Street	Scranton	PA	2536
100108	Maggie	Muffin	2001-07-06	906-485-1542	701 North Street	Sarasota	FL	1009
100109	Kelly	Kapoor	1987-05-30	674-357-9151	62810 Julip Lane	Scranton	PA	540

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Task 06: What is the maximum order amount for every customer?
Identify each customer's highest single order value.

customer_id	first_name	order_total	rowNumber
100101	Kevin	26.24	1
100101	Kevin	10.45	2
100102	Charles	11.11	1
100102	Charles	9.97	2
100103	Finley	27.01	1
100103	Finley	4.00	2
100104	Obi	24.12	1
100104	Obi	16.42	2
100105	Don	8.11	1

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Task 07: What are the top 2 orders for each customer?
Retrieve top 2 highest orders per customer.

customer_id	total_orders
100101	3
100102	2
100103	2
100104	2
100105	1
100106	3
100108	1
100110	1

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Task 08: Which columns identify orders and spending?
Explore the customer_orders table.

customer_id	total_spent
100101	39.14
100102	21.08
100103	31.01
100104	40.54
100105	8.11
100106	147.41
100108	87.01
100110	6.19

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Task 09: What's the difference between RANK and DENSE_RANK for employees with the same salary?
Rank employees by salary within their departments.

employee_id	first_name	last_name	department	title	salary	ranked	dense_ranked
1	Christine	Freberg	Bakery	Lead Baker	70000	1	1
2	Dwight	Schrute	Bakery	Assistant to the Lead Baker	45000	2	2
3	Tom	Haveford	Bakery	Chocolatier	45000	2	2
5	Carl	Lorthner	Bakery	Dough Maker	40000	4	3
4	Ann	Perkins	Bakery	Bakery Clerk	30000	5	4
6	Ron	Swanson	Marketing	Director of Marketing	75000	1	1
9	Annie	Edison	Marketing	Social Media Marketer	65000	2	2
7	Troy	Barnes	Marketing	Lead Marketer	60000	3	3
8	Jeff	Winger	Marketing	Marketing Analyst	60000	3	3

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Thank you

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