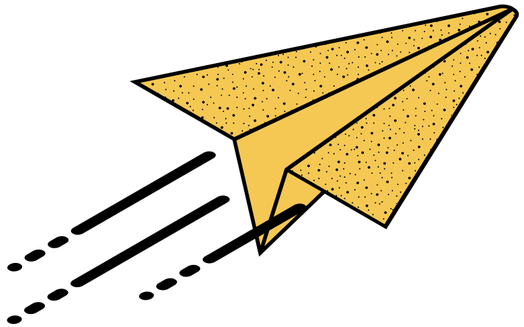
SQL – DATA ANALYSIS

• Crafting SQL queries to analyze customer behavior, staff performance, inventory, and store operations.



JENSON USA

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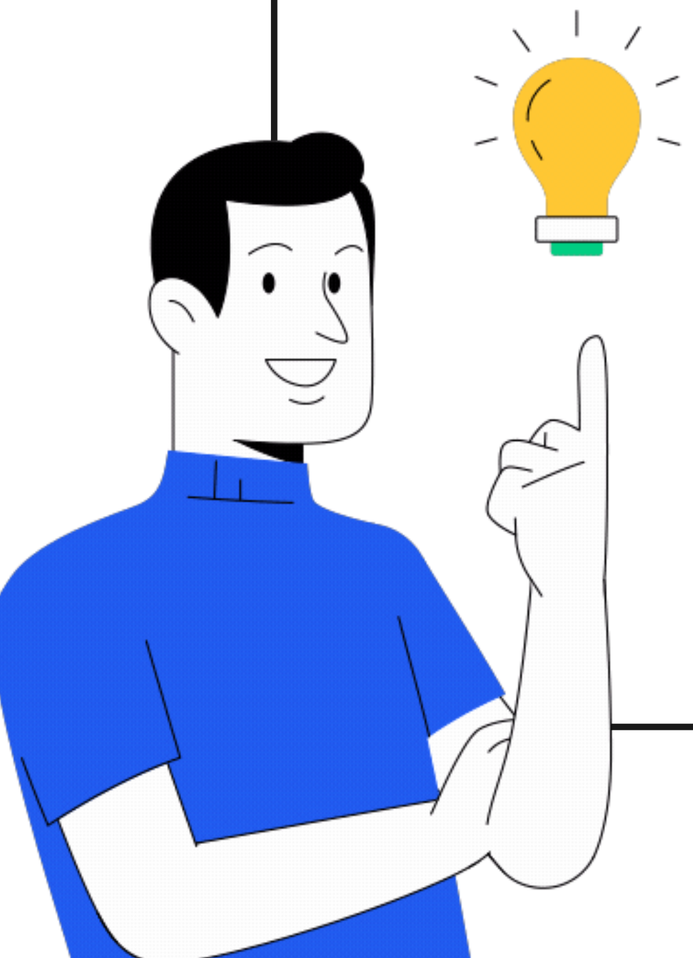
COMPANY OVERVIEW



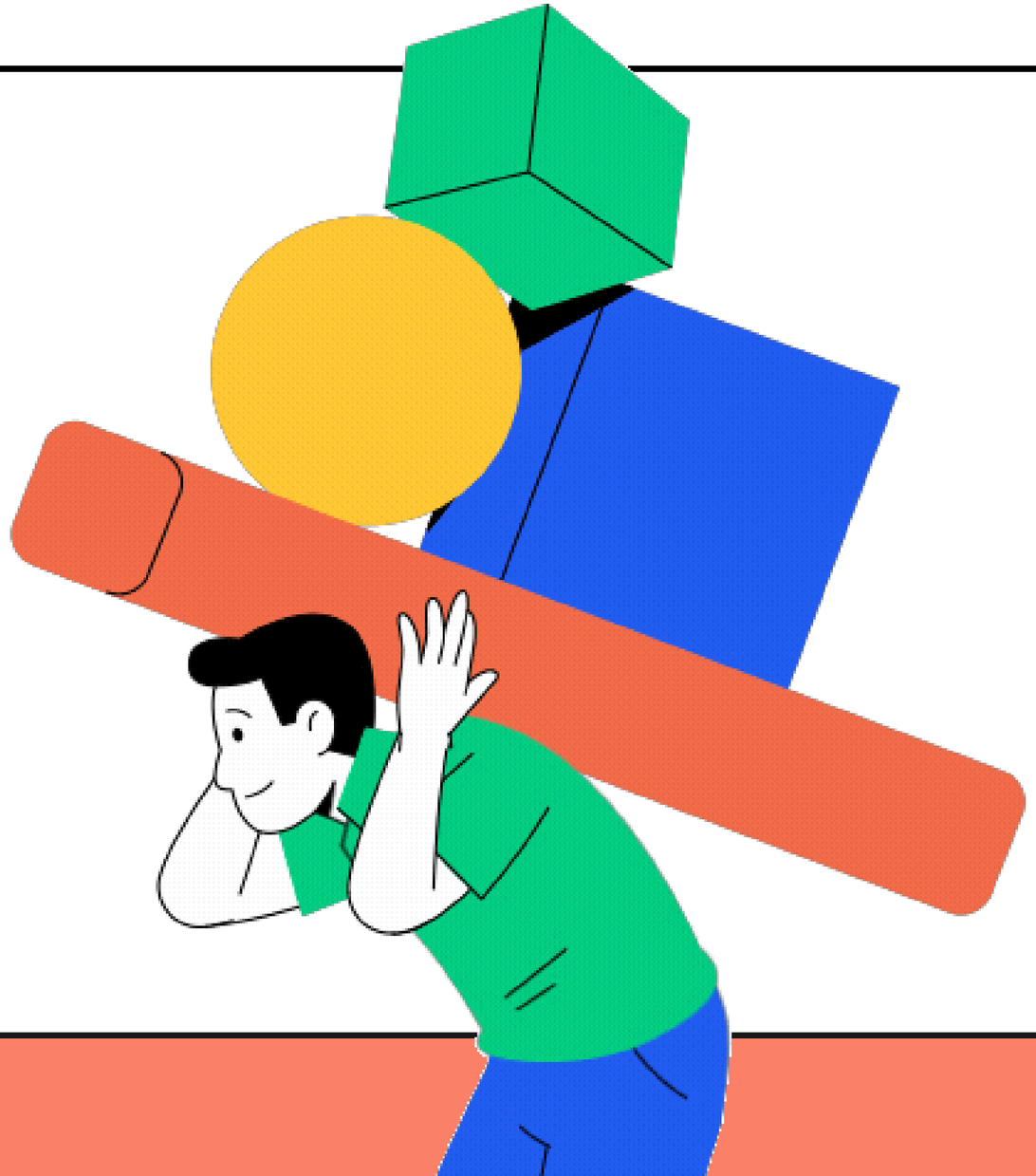
Jenson USA is a leading retail company specializing in high-quality products across multiple categories. With a strong focus on customer satisfaction, inventory management, and staff performance, Jenson USA aims to enhance shopping experiences through data-driven insights. The company operates multiple stores, ensuring seamless operations and efficient sales management.

PRESENTER

LINKEDIN

SATENDRA SINGH KATEWA

GITHUB



OBJECTIVE

Purpose of SQL queries for insights

Extract Business Insights – Use SQL queries to analyze sales, customer behavior, and staff performance.

Optimize Inventory & Operations – Identify demand patterns and improve stock management.

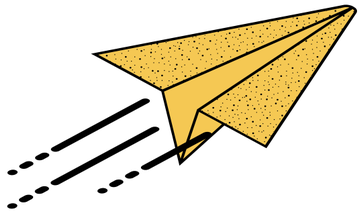
Enhance Decision-Making – Leverage data-driven insights to boost efficiency and profitability.

Query 1

```sql
# Question 1:- Find the total number of products sold by each store along with the store name.

SELECT s.store_name, SUM(oi.quantity) AS total_sold
FROM stores s
JOIN orders o ON s.store_id = o.store_id
JOIN order_items oi ON oi.order_id = o.order_id
GROUP BY s.store_name;

```



• CONNECTION OF TABLE

• OUTPUT

Result Grid | Filter Rows:

store_name	total_sold
Santa Cruz Bikes	1516
Baldwin Bikes	4779
Rowlett Bikes	783

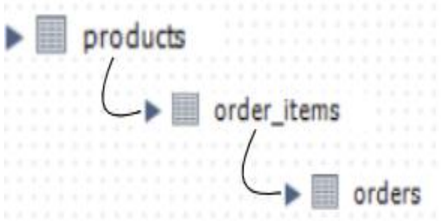
Query 2

```sql
# Question 2:- Calculate the cumulative sum of quantities sold for each product over time.

WITH cte AS (
    SELECT p.product_name, o.order_date, oi.quantity
    FROM products p
    JOIN order_items oi ON p.product_id = oi.product_id
    JOIN orders o ON oi.order_id = o.order_id
)
SELECT *,
       SUM(quantity) OVER (PARTITION BY product_name ORDER BY order_date) AS cum_qty
FROM cte;

```

- CONNECTION OF TABLE



- OUTPUT

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_name	order_date	quantity	cum_qty
Electra Amsterdam Fashion 3i Ladies' - 2017/2018	2018-04-30	2	2
Electra Amsterdam Fashion 3i Ladies' - 2017/2018	2018-01-21	2	4
Electra Amsterdam Fashion 3i Ladies' - 2017/2018	2018-01-01	1	5
Electra Amsterdam Fashion 7i Ladies' - 2017	2018-03-15	2	2
Electra Amsterdam Fashion 7i Ladies' - 2017	2018-02-06	2	4
Electra Amsterdam Fashion 7i Ladies' - 2017	2017-12-20	2	6
Electra Amsterdam Fashion 7i Ladies' - 2017	2017-12-04	2	9
Electra Amsterdam Fashion 7i Ladies' - 2017	2017-12-04	1	9
Electra Amsterdam Fashion 7i Ladies' - 2017	2017-11-28	1	10
Electra Amsterdam Fashion 7i Ladies' - 2017	2017-11-04	1	11

Query 3

```sql
33    # Question 3:- Find the product with the highest total sales (quantity * price) for each category.
34
35    WITH sales_data AS (
36        SELECT c.category_name, p.product_name,
37               SUM(oi.quantity * oi.list_price) AS total_sales
38        FROM categories c
39        JOIN products p ON c.category_id = p.category_id
40        JOIN order_items oi ON oi.product_id = p.product_id
41        GROUP BY c.category_name, p.product_name
42    )
43    SELECT * FROM (
44        SELECT *, DENSE_RANK() OVER (PARTITION BY category_name ORDER BY total_sales DESC) AS rnk
45        FROM sales_data
46    ) ranked_sales
47    WHERE rnk = 1;
48
```

• CONNECTION OF TABLE

• OUTPUT

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category_name	product_name	total_sales	rnk
Children Bicycles	Electra Girl's Hawaii 1 (20-inch) - 2015/2016	4619846.00	1
Comfort Bicycles	Electra Townie Original 7D EQ - 2016	8039866.00	1
Cruisers Bicycles	Electra Townie Original 7D EQ - 2016	9359844.00	1
Cyclocross Bicycles	Surly Straggler 650b - 2016	25382949.00	1
Electric Bikes	Trek Conduit+ - 2016	43499855.00	1
Mountain Bikes	Trek Slash 8 275 - 2016	61599846.00	1
Road Bikes	Trek Domane SLR 6 Disc - 2017	23649957.00	1

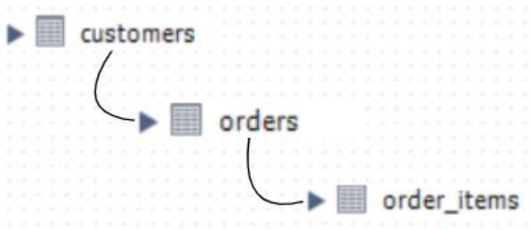
Query 4

```sql
# Question 4:- Find the customer who spent the most money on orders.

SELECT c.customer_id,
       CONCAT(c.first_name, ' ', c.last_name) AS full_name,
       SUM(oi.quantity * oi.list_price) AS sales
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON oi.order_id = o.order_id
GROUP BY 1, 2
ORDER BY sales DESC
LIMIT 1;

```

- CONNECTION OF TABLE



- OUTPUT

Result Grid | Filter Rows:

customer_id	full_name	sales
10	Pamelia Newman	3780184.00

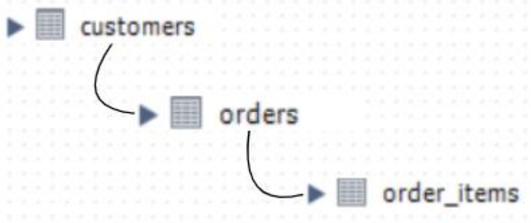
Query 5

```sql
# Question 5:- Find the highest-priced product for each category name.

SELECT c.customer_id,
       CONCAT(c.first_name, ' ', c.last_name) AS full_name,
       SUM(oi.quantity * oi.list_price) AS sales
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON oi.order_id = o.order_id
GROUP BY c.customer_id, full_name
ORDER BY sales DESC;

```

- CONNECTION OF TABLE



- OUTPUT

Result Grid | Filter Rows:

customer_id	full_name	sales
10	Pamelia Newman	3780184.00
75	Abby Gamble	3750089.00
94	Sharyn Hopkins	3713886.00
6	Lyndsey Bean	3585786.00
16	Emmitt Sanchez	3450382.00
73	Melanie Hayes	3439088.00
1	Debra Burks	3064587.00
61	Elinore Aguilar	2966183.00
93	Corrina Sawyer	2921489.00
122	Shena Carter	2761895.00
12	Robby Sykes	2715788.00

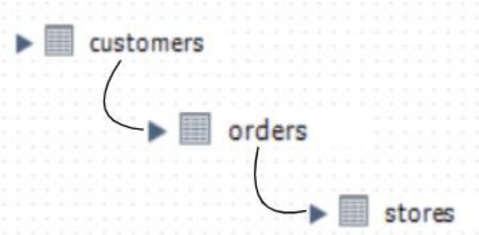
FUNNY FACT ABOUT JENSON USA

Jenson USA’s customers are so loyal that some have bought products they don’t even need—just because they love shopping there! Rumor has it, one customer accidentally ordered a bicycle helmet… but doesn’t own a bike! 🚴 😂

Query 6

```
73   # Question 6:- Find the total number of orders placed by each customer per store.
74
75 • SELECT c.customer_id,
76          c.first_name,
77          s.store_name,
78          COUNT(o.order_id) AS no_of_orders
79   FROM customers c
80   LEFT JOIN orders o ON c.customer_id = o.customer_id
81   JOIN stores s ON s.store_id = o.store_id
82   GROUP BY c.customer_id, c.first_name, s.store_name;
83
```

- CONNECTION OF TABLE



- OUTPUT

Result Grid | Filter Rows: | Export:

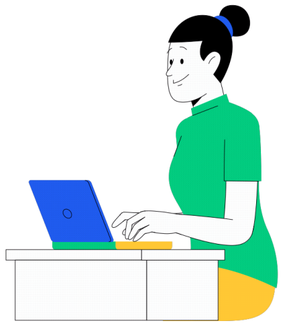
customer_id	first_name	store_name	no_of_orders
259	Johnathan	Santa Cruz Bikes	1
175	Nova	Santa Cruz Bikes	2
60	Neil	Santa Cruz Bikes	2
91	Marvin	Santa Cruz Bikes	2
258	Maribel	Santa Cruz Bikes	1
552	Lea	Santa Cruz Bikes	1
1175	Sindy	Santa Cruz Bikes	1
541	Lanita	Santa Cruz Bikes	1
696	Norine	Santa Cruz Bikes	1
923	Randee	Santa Cruz Bikes	1
1035	Tangela	Santa Cruz Bikes	1

Query 7

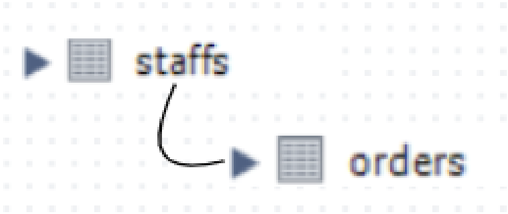
```sql
# Question 7:- Find the names of staff members who have not made any sales.

SELECT s.staff_id,
       CONCAT(s.first_name, ' ', s.last_name) AS staff_full_name,
       o.order_id
FROM staffs s
LEFT JOIN orders o ON s.staff_id = o.staff_id
WHERE o.order_id IS NULL;

```



- CONNECTION OF TABLE



- OUTPUT

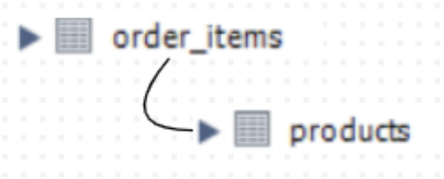
Result Grid | Filter Rows:

staff_id	staff_full_name
1	Fabiola Jackson
4	Virgie Wiggins
5	Jannette David
10	Bernardine Houston

Query 8

```
94   # Question 8:- Find the top 3 most sold products in terms of quantity.
95
96 • SELECT oi.product_id, p.product_name,
97          SUM(oi.quantity) AS total_quantity_sold
98   FROM order_items oi
99   JOIN products p ON oi.product_id = p.product_id
100  GROUP BY oi.product_id, p.product_name
101  ORDER BY total_quantity_sold DESC
102  LIMIT 3;
103
```

- CONNECTION OF TABLE



- OUTPUT

Result Grid | Filter Rows: | Export: | Wrap Ce

product_id	product_name	total_quantity_sold
6	Surly Ice Cream Truck Frameset - 2016	167
13	Electra Cruiser 1 (24-Inch) - 2016	157
16	Electra Townie Original 7D EQ - 2016	156

KEY INFORMATION ABOUT

JENSON USA

Jenson USA was founded by Michael Cachat in 1996 in Yorba Linda, California. The company has grown significantly since its inception, expanding into a 74,000 sq ft facility in Riverside, California. Jenson USA has been recognized as one of the Internet Retailer's Top 500 companies and nominated as a Top Workplace in the Inland Empire.

Query 9

```
106    # Question 9:- Find the median value of the price list.
107
108 •  WITH a AS (
109        SELECT list_price,
110               ROW_NUMBER() OVER (ORDER BY list_price) AS rn,
111               COUNT(*) OVER() AS n
112        FROM products
113    )
114    SELECT CASE
115        WHEN MOD(n, 2) = 0
116            THEN (SELECT AVG(list_price) FROM a WHERE rn IN (n/2, (n/2) + 1))
117        ELSE
118            (SELECT list_price FROM a WHERE rn = (n + 1) / 2)
119    END AS median
120    FROM a
121    LIMIT 1;
```

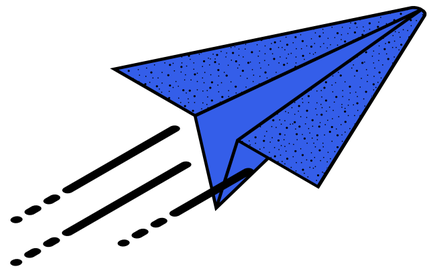
- **OUTPUT**

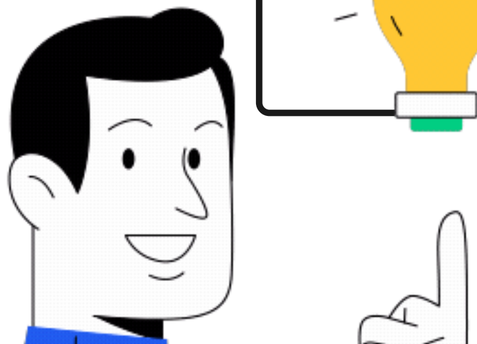
Result Grid

	median
▶	74999.00

Query 10

```
124   # Question 10:- List all products that have never been ordered.(use Exists).
125
126
127 •  SELECT p.product_name
128    FROM products p
129    WHERE NOT EXISTS (
130        SELECT 1 FROM order_items oi
131        WHERE oi.product_id = p.product_id
132    );
133
```





- **OUTPUT**

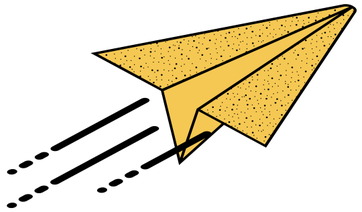
Result Grid | Filter Rows:

product_name
Trek 820 - 2016
Surly Krampus Frameset - 2018
Trek Kids' Dual Sport - 2018
Trek Domane SLR 6 Disc Women's - 2018
Electra Townie Go! 8i Ladies' - 2018
Trek Precaliber 12 Girl's - 2018
Electra Savannah 1 (20-inch) - Girl's - 2018
Electra Sweet Ride 1 (20-inch) - Girl's - 2018
Trek Checkpoint ALR 4 Women's - 2019
Trek Checkpoint ALR 5 - 2019
Trek Checkpoint ALR 5 Women's - 2019

Query 11

```sql
# Question 11:- List the names of staff members who have made more sales than the average number of sales by all staff members.

WITH sales_data AS (
    SELECT s.staff_id, s.first_name,
           COALESCE(SUM(oi.quantity * oi.list_price), 0) AS sales
    FROM staffs s
    LEFT JOIN orders o ON s.staff_id = o.staff_id
    LEFT JOIN order_items oi ON o.order_id = oi.order_id
    GROUP BY s.staff_id, s.first_name
)
SELECT * FROM sales_data WHERE sales > (SELECT AVG(sales) FROM sales_data);
```



- **CONNECTION OF TABLE**

- **OUTPUT**

Result Grid | Filter Rows:

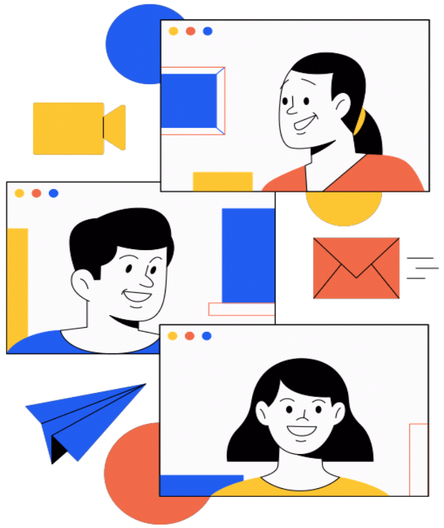
product_name
Trek 820 - 2016
Surly Krampus Frameset - 2018
Trek Kids' Dual Sport - 2018
Trek Domane SLR 6 Disc Women's - 2018
Electra Townie Go! 8i Ladies' - 2018
Trek Precaliber 12 Girl's - 2018
Electra Savannah 1 (20-inch) - Girl's - 2018
Electra Sweet Ride 1 (20-inch) - Girl's - 2018
Trek Checkpoint ALR 4 Women's - 2019
Trek Checkpoint ALR 5 - 2019
Trek Checkpoint ALR 5 Women's - 2019

Query 12

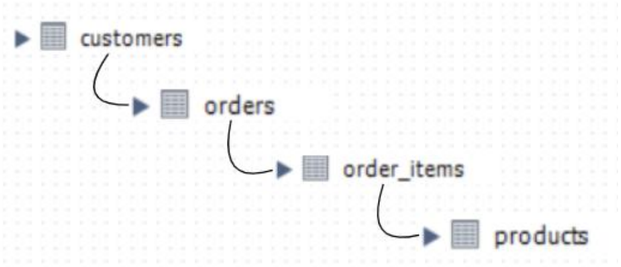
```sql
# Question 12:- Identify the customers who have ordered all types of products (i.e., from every category)


SELECT c.customer_id, c.first_name,
       COUNT(oi.product_id) AS total_orders
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON o.order_id = oi.order_id
JOIN products p ON p.product_id = oi.product_id
GROUP BY c.customer_id, c.first_name
HAVING COUNT(DISTINCT p.category_id) = (SELECT COUNT(*) FROM categories);

```



- CONNECTION OF TABLE



- OUTPUT

Result Grid | Filter Rows:

customer_id	first_name	total_orders
9	Genoveva	9

Action 1

Sales Performance

•Identifies the best-selling products across all stores.
•Compares sales performance between different store locations.
•Helps in recognizing high-revenue-generating products.

Action 2

Customer Behavior

•Analyzes customer spending patterns and order frequency.
•Identifies the highest-spending customers.
•Tracks customers who purchase from multiple categories.

Action 3

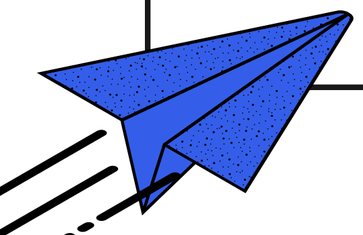
Inventory Management

•Lists products that are frequently sold vs. never ordered.
•Helps in stock optimization and demand forecasting.
•Reduces overstocking and understocking issues.

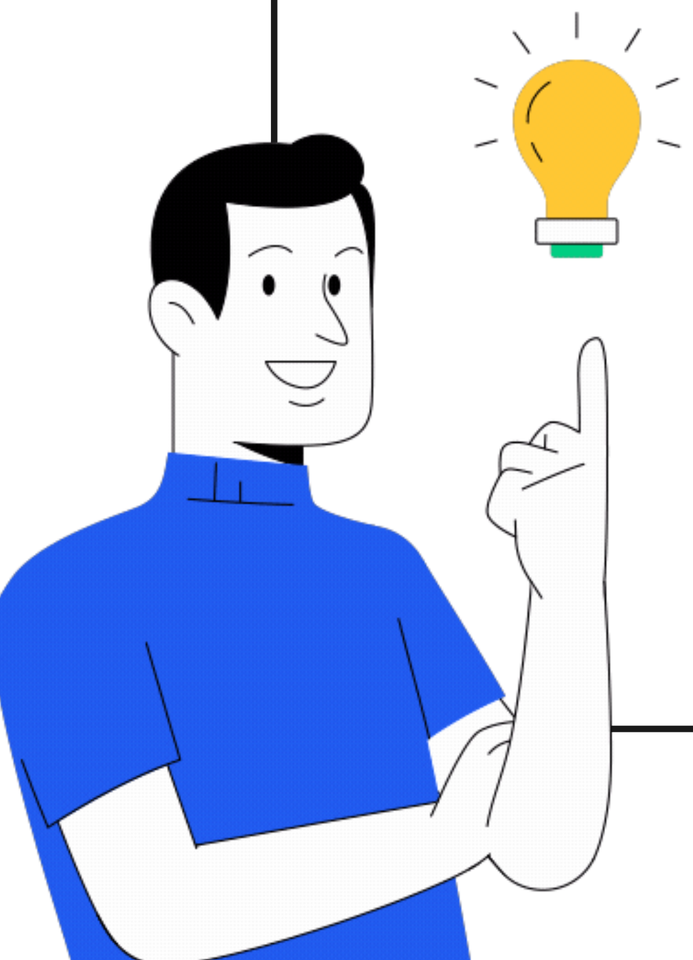
Action 4

Staff Performance

•Highlights top-performing employees based on sales contribution.
•Identifies staff members who haven’t made any sales.
•Helps in improving staff training and incentives.



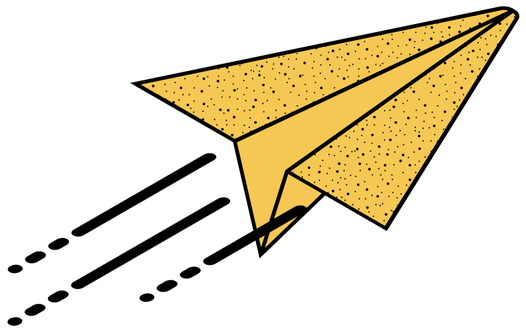
CONCLUSIONS



Conclusion: Driving Success with Data

- **Unleashing Insights** – Data-driven analysis helps Jenson USA optimize sales, inventory, and customer engagement.
- **Enhancing Efficiency** – Understanding staff performance and customer behavior leads to smarter business decisions.
- **Future Growth** – Leveraging insights from SQL queries will drive better forecasting, improved operations, and increased profitability.

💡 **Data isn’t just numbers; it’s the key to smarter strategies and business success!** 🚀



THANK YOU!