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--Bike Store Analysis
--1. Sales and Orders Analysis
--Total Revenue and Quantity Sold:
SELECT CAST(ROUND(SUM(list_price * (1 - discount) * quantity), 0) AS
DECIMAL(10,2)) AS Total_revenue
,
Sum(quantity)AS Quantity_sold
FROM
[sales].[order_items]
```

	Total_revenue	Quantity_sold
1	7689117.00	7078

```
--Average Revenue per Order and Total Quantity Sold by Year:
SELECT Datename(year, order_date) AS Year,
CAST(ROUND(AVG(list_price * (1 - discount) * quantity), 2) AS DECIMAL(10,2)) AS
Average_revenue_per_order,
Sum(quantity) AS Quantity
FROM [sales].[order_items] oi
JOIN [sales].[orders] o
ON oi.order_id = o.order_id
GROUP BY Datename(year, order_date)
ORDER BY Datename(year, order_date) ASC
```

	Year	Average_revenue_per_order	Quantity
1	2016	1369.08	2663
2	2017	1665.32	3099
3	2018	2064.31	1316

```
-- Total Monthly Revenue Aggregated by Month and Year
SELECT
DATENAME(month, o.order_date) AS Month,
YEAR(o.order_date) AS Year,
CAST(ROUND(SUM(list_price * (1 - discount) * quantity), 0) AS DECIMAL(10,2))
AS Total_revenue
FROM [sales].[order_items] ot
JOIN [sales].[orders] o
ON ot.order_id = o.order_id
GROUP BY DATENAME(month, o.order_date), YEAR(o.order_date), DATEPART(month,
o.order_date)
ORDER BY Year, DATEPART(month, o.order_date);
```

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--2. Customer Analysis
-- Top 10 Customers by Total Order Value:
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```
SELECT TOP 10
c.customer_id,
CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
c.state AS State,
SUM(oi.quantity) AS Order_count,
CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount)), 0) AS
DECIMAL(10,2)) AS total_order_value
```

```

FROM [sales].[customers] c
JOIN [sales].[orders] o ON c.customer_id = o.customer_id
JOIN [sales].[order_items] oi ON o.order_id = oi.order_id
GROUP BY
    c.customer_id,
    CONCAT(c.first_name, ' ', c.last_name),
    c.state
ORDER BY total_order_value DESC;

```

	customer_id	customer_name	State	Order_count	total_order_value
1	94	Sharyn Hopkins	NY	15	34808.00
2	10	Pamelia Newman	NY	18	33634.00
3	75	Abby Gamble	NY	11	32803.00
4	6	Lyndsey Bean	NY	16	32675.00
5	16	Emmitt Sanchez	NY	19	31926.00
6	73	Melanie Hayes	NY	12	31914.00
7	1	Debra Burks	NY	17	27888.00
8	61	Elinore Aguilar	TX	17	25636.00
9	93	Corrina Sawyer	NY	12	25613.00
10	122	Shena Carter	NY	5	24891.00

```

-- Customer Distribution and Total Sales by State:
SELECT COUNT(distinct c.customer_id) AS Customer_count,
s.state,
CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount)), 0) AS
DECIMAL(10,2)) AS total_sales
FROM [sales].[orders] o
JOIN [sales].[customers] c ON o.customer_id = c.customer_id
JOIN [sales].[order_items] oi ON o.order_id = oi.order_id
JOIN [sales].[stores] s ON o.store_id = s.store_id
GROUP BY s.state
ORDER BY total_sales DESC

```

	Customer_count	state	total_sales
1	1019	NY	5215751.00
2	284	CA	1605823.00
3	142	TX	867542.00

```

--3. Product Analysis
--Top 10 Products by Total Sales

```

```

SELECT TOP 10
    p.product_id,
    p.product_name,
    SUM(oi.quantity) AS total_quantity_sold,
    CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount)), 0) AS
DECIMAL(10,2)) AS total_sales
FROM [sales].[order_items] oi
JOIN [production].[products] p ON oi.product_id = p.product_id
GROUP BY p.product_id, p.product_name
ORDER BY total_sales DESC;

```

	product_id	product_name	total_quantity_sold	total_sales
1	7	Trek Slash 8 27.5 - 2016	154	555559.00
2	9	Trek Conduit+ - 2016	145	389249.00
3	4	Trek Fuel EX 8 29 - 2016	143	368473.00
4	11	Surly Straggler 650b - 2016	151	226766.00
5	56	Trek Domane SLR 6 Disc - 2017	43	211585.00
6	10	Surly Straggler - 2016	147	203508.00
7	8	Trek Remedy 29 Carbon Frameset - 2016	125	203381.00
8	61	Trek Powerfly 8 FS Plus - 2017	41	188250.00
9	58	Trek Madone 9.2 - 2017	39	175900.00
10	51	Trek Silque SLR 8 Women's - 2017	29	174525.00

-- Least Profitable Products:

```
SELECT TOP 10
    p.product_id,
    p.product_name,
    CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount)), 0) AS
DECIMAL(10,2)) AS total_sales
FROM [sales].[order_items] oi
JOIN [production].[products] p ON oi.product_id = p.product_id
GROUP BY p.product_id, p.product_name
ORDER BY total_sales ;
```

	product_id	product_name	total_sales
1	270	Trek Precaliber 16 Boy's - 2018	199.00
2	285	Electra Soft Serve 1 (16-inch) - Girl's - 2018	224.00
3	262	Trek MT 201 - 2018	225.00
4	222	Electra Cruiser 1 Tall - 2016/2018	243.00
5	279	Trek Precaliber 24 7-speed Girl's - 2018	256.00
6	287	Electra Straight 8 1 (16-inch) - Boy's - 2018	266.00
7	273	Trek Precaliber 20 6-speed Girl's - 2018	270.00
8	296	Electra Treasure 3i 20" - 2018	296.00
9	218	Electra Cruiser 7D - 2016/2017/2018	304.00
10	294	Electra Tiger Shark 3i (20-inch) - Boys' - 2018	333.00

--4. Brands

--Total Sales and Average Sales Price by Brand:

```
SELECT
    b.brand_name,
    CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount)), 0) AS
DECIMAL(10,2)) AS total_sales,
    CAST(ROUND(AVG(oi.list_price * (1 - oi.discount)), 2) AS DECIMAL(10,2)) AS
avg_sales_price
FROM [production].[brands] b
JOIN [production].[products] p ON b.brand_id = p.brand_id
JOIN [sales].[order_items] oi ON p.product_id = oi.product_id
GROUP BY b.brand_name
ORDER BY total_sales DESC;
```

	brand_name	total_sales	avg_sales_price
1	Trek	4602754.00	2479.32
2	Electra	1205321.00	465.86
3	Surly	949507.00	1041.01
4	Sun Bicycles	341995.00	473.57
5	Haro	185385.00	563.59
6	Heller	171459.00	1241.57
7	Pure Cycles	149476.00	397.25
8	Ritchey	78899.00	669.15
9	Strider	4320.00	173.41

#### --5. Categories

--Total Sales and Average Sales Price by Product Category:

```
SELECT
    c.category_name,
    CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount))), 0) AS
DECIMAL(10,2)) AS total_sales,
    CAST(ROUND(AVG(oi.list_price * (1 - oi.discount)), 2) AS DECIMAL(10,2)) AS
avg_sales_price
FROM [production].[categories] c
JOIN [production].[products] p ON c.category_id = p.category_id
JOIN [sales].[order_items] oi ON p.product_id = oi.product_id
GROUP BY c.category_name
ORDER BY total_sales DESC;
```

	category_name	total_sales	avg_sales_price
1	Mountain Bikes	2715080.00	1545.67
2	Road Bikes	1665098.00	2962.11
3	Cruisers Bicycles	995033.00	484.42
4	Electric Bikes	916685.00	2869.21
5	Cyclocross Bicycles	711012.00	1801.61
6	Comfort Bicycles	394020.00	484.08
7	Children Bicycles	292189.00	249.12

#### --6. Store Analysis

--Total Sales by Store:

```
SELECT
    s.store_id,
    s.store_name,
    s.city,
    s.state,
    CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount))), 0) AS
DECIMAL(10,2)) AS total_sales
FROM [sales].[order_items] oi
JOIN [sales].[orders] o ON oi.order_id = o.order_id
JOIN [sales].[stores] s ON o.store_id = s.store_id
GROUP BY s.store_id, s.store_name, s.city, s.state
ORDER BY total_sales DESC;
```

	store_id	store_name	city	state	total_sales
1	2	Baldwin Bikes	Baldwin	NY	5215751.00
2	1	Santa Cruz Bikes	Santa Cruz	CA	1605823.00
3	3	Rowlett Bikes	Rowlett	TX	867542.00

--Most Selling Product for Each Store:

```
WITH RankedProducts AS (  
    SELECT  
        s.store_id,  
        s.store_name,  
        p.product_id,  
        p.product_name,  
        SUM(oi.quantity) AS total_quantity_sold,  
        ROW_NUMBER() OVER (PARTITION BY s.store_id ORDER BY SUM(oi.quantity) DESC)  
    AS rank  
    FROM [sales].[order_items] oi  
    JOIN [sales].[orders] o ON oi.order_id = o.order_id  
    JOIN [sales].[stores] s ON o.store_id = s.store_id  
    JOIN [production].[products] p ON oi.product_id = p.product_id  
    GROUP BY s.store_id, s.store_name, p.product_id, p.product_name  
)  
SELECT  
    store_id,  
    store_name,  
    product_id,  
    product_name,  
    total_quantity_sold  
FROM RankedProducts  
WHERE rank = 1;
```

	store_id	store_name	product_id	product_name	total_quantity_sold
1	1	Santa Cruz Bikes	15	Electra Moto 1 - 2016	50
2	2	Baldwin Bikes	6	Surly Ice Cream Truck Frameset - 2016	113
3	3	Rowlett Bikes	13	Electra Cruiser 1 (24-Inch) - 2016	24

--7. Staffs

-- Total Number of Staff per Store:

```
SELECT  
s.store_id,  
s.store_name,  
COUNT(*) AS staff_count  
FROM  
[sales].[staffs] st  
JOIN  
[sales].[stores] s ON st.store_id = s.store_id  
GROUP BY  
s.store_id, s.store_name;
```

	store_id	store_name	staff_count
1	1	Santa Cruz Bikes	4
2	2	Baldwin Bikes	3
3	3	Rowlett Bikes	3

```

--Top Performing Staff Members by Total Sales and Units Sold
WITH RankedStaff AS (
    SELECT
        CONCAT(s.first_name, ' ', s.last_name) AS staff_name,
        CAST(ROUND(SUM(oi.list_price * oi.quantity * (1 - oi.discount)), 0) AS
DECIMAL(10,2)) AS total_sales,
        SUM(oi.quantity) AS units_sold,
        RANK() OVER (ORDER BY SUM(oi.list_price * oi.quantity * (1 - oi.discount))
DESC) AS sales_rank
    FROM [sales].[staffs] s
    JOIN [sales].[orders] o ON s.staff_id = o.staff_id
    JOIN [sales].[order_items] oi ON o.order_id = oi.order_id
    GROUP BY s.staff_id, s.first_name, s.last_name
)
SELECT staff_name, total_sales, units_sold
FROM RankedStaff
WHERE sales_rank <= 3

```

	staff_name	total_sales	units_sold
1	Marcelene Boyer	2624121.00	2419
2	Venita Daniel	2591631.00	2360
3	Genna Serrano	853287.00	831