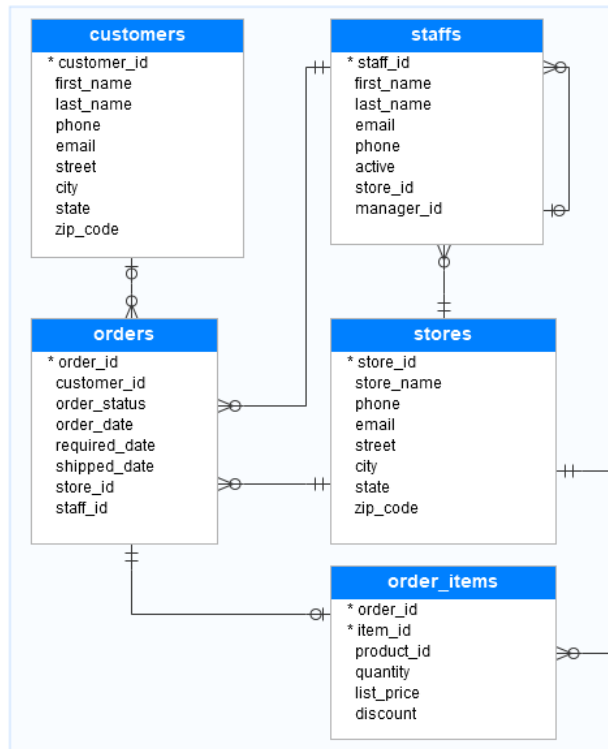
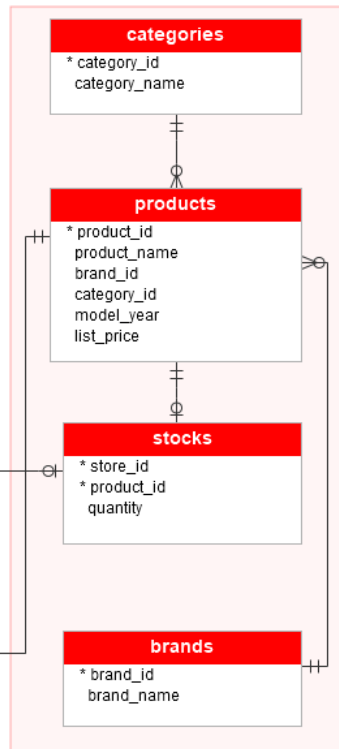


Customer Sales and Analysis

Sales



Production



-Products with empty stock in each store

SELECT

s.store_id,
s.store_name,
p.product_id,
p.product_name,
st.quantity

FROM

stores s

JOIN

Stocks st

ON

s.store_id = st.store_id

JOIN

products p

ON

p.product_id = st.product_id

WHERE

st.quantity = 0;

	store_id	store_name	product_id	product_name	quantity
0	1	Santa Cruz Bikes	6	Surly Ice Cream Truck Frameset - 2016	0
1	1	Santa Cruz Bikes	8	Trek Remedy 29 Carbon Frameset - 2016	0
2	1	Santa Cruz Bikes	32	Trek Farley Alloy Frameset - 2017	0
3	1	Santa Cruz Bikes	42	Trek Fuel EX 5 27.5 Plus - 2017	0
4	1	Santa Cruz Bikes	92	Haro Shredder 20 - 2017	0
5	1	Santa Cruz Bikes	160	Trek Emonda SLR 6 - 2018	0
6	1	Santa Cruz Bikes	163	Surly Pack Rat - 2018	0
7	1	Santa Cruz Bikes	168	Surly Straggler - 2018	0
8	1	Santa Cruz Bikes	246	Electra Townie Original 3i EQ Ladies* - 2018	0
9	1	Santa Cruz Bikes	302	Electra Townie Original 1 - 2018	0
10	2	Baldwin Bikes	22	Electra Girl's Hawaii 1 (16-inch) - 2015/2016	0
11	2	Baldwin Bikes	47	Trek Remedy 9.8 - 2017	0
12	2	Baldwin Bikes	91	Trek Precaliber 24 (21-Speed) - Girls - 2017	0
13	2	Baldwin Bikes	158	Trek CrossRip 1 - 2018	0
14	2	Baldwin Bikes	175	Trek Domane SLR Frameset - 2018	0
15	2	Baldwin Bikes	184	Trek Domane SL 6 Disc - 2018	0
16	2	Baldwin Bikes	192	Electra Townie Go! 8i - 2017/2018	0
17	2	Baldwin Bikes	198	Electra Townie Commute Go! - 2018	0
18	2	Baldwin Bikes	251	Electra Townie Commute Go! - 2018	0
18	2	Baldwin Bikes	251	Electra Townie Commute Go! - 2018	0
19	2	Baldwin Bikes	299	Electra Townie Original 21D - 2018	0
20	3	Rowlett Bikes	3	Surly Wednesday Frameset - 2016	0
21	3	Rowlett Bikes	59	Trek Domane S 5 Disc - 2017	0
22	3	Rowlett Bikes	220	Electra Cruiser 1 Ladies* - 2018	0
23	3	Rowlett Bikes	259	Electra Amsterdam Royal 8i Ladies - 2018	0
24	3	Rowlett Bikes	313	Electra Townie Original 1 Ladies* - 2018	0

-Retrieve a list of all customers along with their order count:

SELECT

c.customer_id,
c.first_name,
c.last_name,
COUNT(o.order_id) **AS** order_count

FROM

customers c

LEFT JOIN

orders o **ON** c.customer_id = o.customer_id

GROUP BY

c.customer_id, c.first_name, c.last_name

ORDER BY

c.customer_id;

	customer_id	first_name	last_name	order_count
0	1	Debra	Burks	3
1	2	Kasha	Todd	3
2	3	Tameka	Fisher	3
3	4	Daryl	Spence	3
4	5	Charolette	Rice	3
...
1440	1441	Jamaal	Morrison	1
1441	1442	Cassie	Cline	1
1442	1443	Lezlie	Lamb	1
1443	1444	Ivette	Estes	1
1444	1445	Ester	Acevedo	1

1445 rows x 4 columns

Find the top 5 best-selling products based and its total revenue

```
SELECT
    p.product_id,
    p.product_name,
    oi.list_price,
    SUM(oi.quantity) AS total_units_sold,
    SUM(oi.quantity * (oi.list_price * (1 - oi.discount))) AS
total_revenue
FROM
    order_items oi
INNER JOIN
    products p ON oi.product_id = p.product_id
GROUP BY
    p.product_id,
    p.product_name
ORDER BY
    total_units_sold DESC
LIMIT 5
```

	product_id	product_name	list_price	total_units_sold	total_revenue
0	6	Surly Ice Cream Truck Frameset - 2016	469.99	167	70371.6027
1	13	Electra Cruiser 1 (24-Inch) - 2016	269.99	157	37992.9928
2	16	Electra Townie Original 7D EQ - 2016	599.99	156	82744.6209
3	7	Trek Slash 8 27.5 - 2016	3999.99	154	55558.6111
4	23	Electra Girl's Hawaii 1 (20-inch) - 2015/2016	299.99	154	41011.6329

-Rank stores based on their total revenues

```
WITH StoreRevenue AS (
    SELECT
        s.store_id,
        s.store_name,
        SUM(oi.quantity * oi.list_price * (1 - oi.discount)) AS
total_revenue
    FROM
        stores s
    JOIN
        orders o ON s.store_id = o.store_id
    JOIN
        order_items oi ON o.order_id = oi.order_id
    GROUP BY
        s.store_id, s.store_name
```

```

)
SELECT
    store_id,
    store_name,
    total_revenue,
    RANK() OVER (ORDER BY total_revenue DESC) AS store_rank
FROM
    StoreRevenue;

```

	store_id	store_name	total_revenue	store_rank
0	2	Baldwin Bikes	5.215751e+06	1
1	1	Santa Cruz Bikes	1.605823e+06	2
2	3	Rowlett Bikes	8.675422e+05	3

- Average units sold for each month of the year, for each product category

```

WITH AvgUnitsSold AS (
    SELECT
        strftime('%Y', order_date) AS year,
        strftime('%m', order_date) AS month,
        c.category_name,
        AVG(oi.quantity) AS avg_units_sold
    FROM
        order_items oi
    INNER JOIN
        orders o ON oi.order_id = o.order_id
    INNER JOIN
        products p ON oi.product_id = p.product_id
    INNER JOIN
        categories c ON p.category_id = c.category_id
    GROUP BY
        strftime('%Y', order_date),
        strftime('%m', order_date),
        c.category_name
)

SELECT
    year,

```

```

    month,
    category_name,
    avg_units_sold
FROM
    AvgUnitsSold
ORDER BY
    year,
    month,
    category_name;

```

	year	month	category_name	avg_units_sold
0	2016	01	Children Bicycles	1.500000
1	2016	01	Comfort Bicycles	1.636364
2	2016	01	Cruisers Bicycles	1.518519
3	2016	01	Cyclocross Bicycles	1.636364
4	2016	01	Electric Bikes	1.666667
...
202	2018	11	Mountain Bikes	1.000000
203	2018	11	Road Bikes	1.500000
204	2018	12	Cruisers Bicycles	1.000000
205	2018	12	Electric Bikes	2.000000
206	2018	12	Road Bikes	1.000000

207 rows x 4 columns

- What city and state has the highest customer concentration?

```

SELECT
    city,
    state,
    COUNT (DISTINCT customer_id) AS total_customers
FROM
    customers
GROUP BY
    city, state
ORDER BY
    total_customers DESC;

```

	city	state	total_customers
0	Mount Vernon	NY	20
1	Ballston Spa	NY	17
2	Scarsdale	NY	17
3	Canandaigua	NY	14
4	Floral Park	NY	13
...
190	Springfield Gardens	NY	2
191	Middle Village	NY	1
192	Tonawanda	NY	1
193	Westbury	NY	1
194	Yuba City	CA	1

195 rows x 3 columns