National Telecommunication Institute

BikeStore Database

Using MySql

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Overview of BikeStore Database

- The database contains several tables: brands, customers, categories, stores, stocks, staffs, products, orders, and order items.
- NB:
  - Order Status:
    - 1= Pending
    - 2= Processing
    - 3= Rejected
    - 4= Completed
  - category id:
    - 1= Children Bicycles
    - 2= Comfort Bicycles
    - 3= Cruisers Bicycles
    - 4= Cyclocross Bicycles
    - 5= Electric Bikes
    - 6= Mountain Bikes
    - 7= Road Bikes

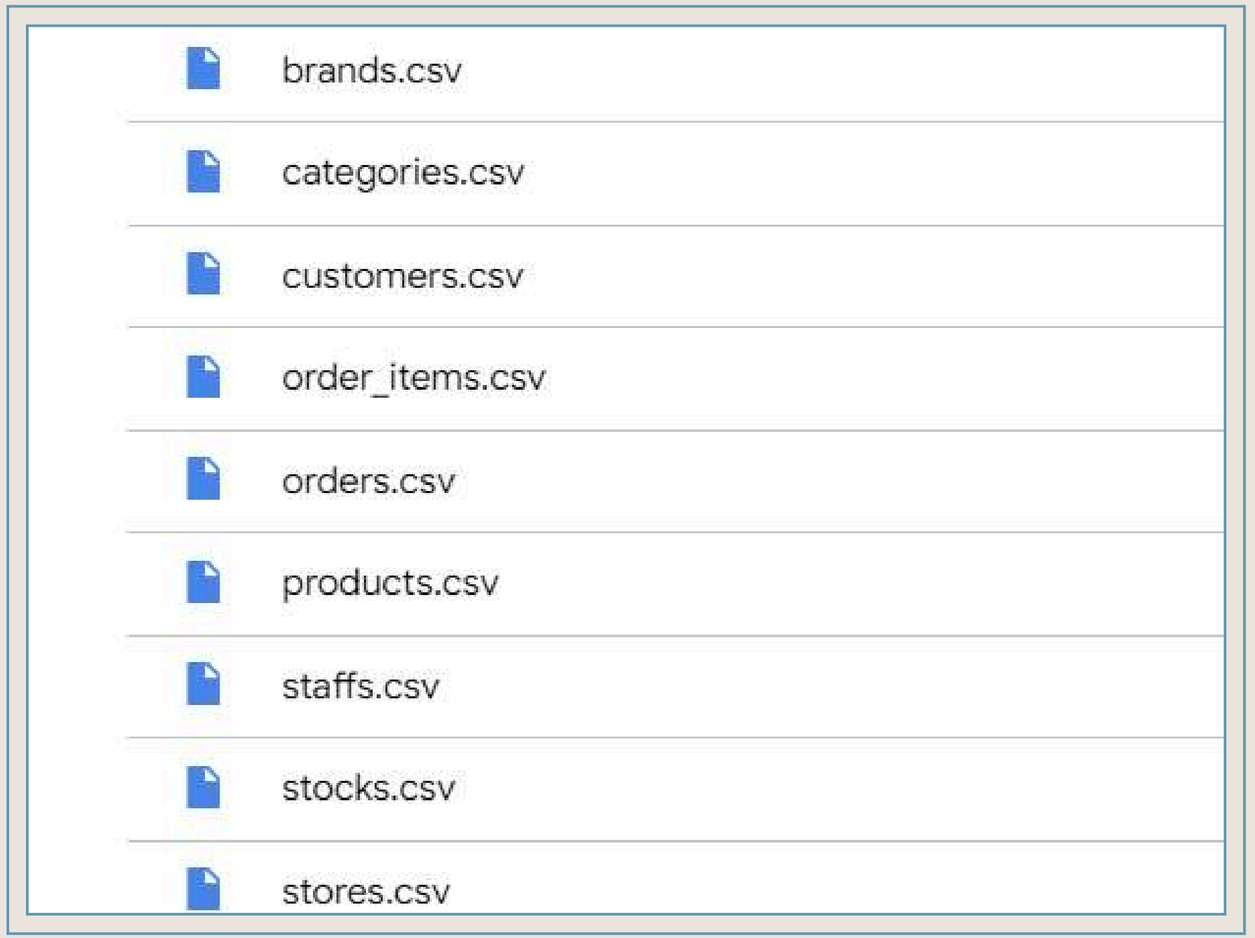
Business Questions

1. Which bike is most expensive? What could be the motive behind pricing this bike at the high price?
2. How many total customers does BikeStore have?
3. How many stores does BikeStore have?
4. What is the total price spent per order?
5. What’s the sales/revenue per store?
6. Which category is most sold?
7. Which category rejected more orders?
8. Which bike is the least sold?
9. What’s the full name of a customer with ID 259?
10. What did the customer on question 9 buy and when? What’s the status of this order?
11. Which brand is the most liked?
12. Which store still have more products of the most liked brand?
13. What’s the discounted price of product id 259?
14. How many states does BikeStore operate in?
15. How many orders are still pending?
16. What’s the names of category and brand does "Electra white water 3i - 2018" fall under?

>>>>More

Get data as .csv

then import from “Table data import” that allows you to easily import csv files



Data exploration

Why?

- To understand the structure and relationships between tables
- by Database Diagram
- Then display all tables

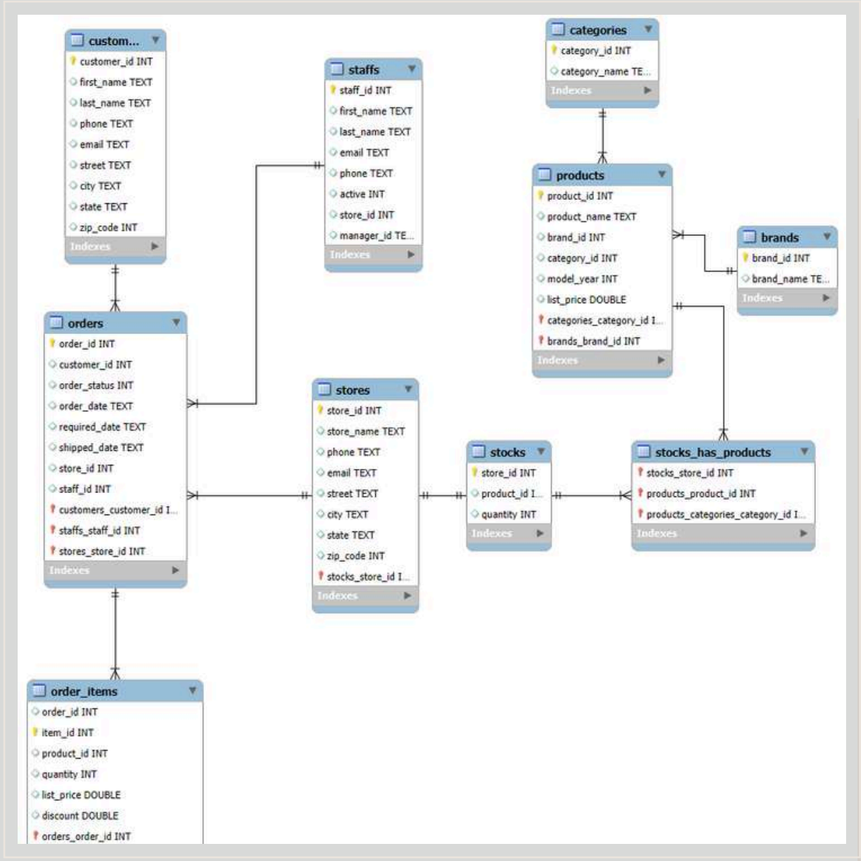
Some table:

```
##to show all data
select * from brands ;
select * from customers ;
select * from categories ;
select * from stores ;
select * from stocks ;
select * from staffs ;
select * from products ;
select * from orders ;
select * from order_items ;
```

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

customer_id	first_name	last_name	phone	email	street	city	state	zip
1	Debra	Burks	NULL	debra.burks@yahoo.com	9273 Thorne Ave.	Orchard Park	NY	14
2	Kasha	Todd	NULL	kasha.todd@yahoo.com	910 Vine Street	Campbell	CA	95
3	Tameka	Fisher	NULL	tameka.fisher@aol.com	769C Honey Creek St.	Redondo Beach	CA	90
4	Daryl	Spence	NULL	daryl.spence@aol.com	988 Pearl Lane	Uniondale	NY	11
5	Charolette	Rice	(916) 381-6003	charolette.rice@msn.com	107 River Dr.	Sacramento	CA	95
6	Lyndsey	Bean	NULL	lyndsey.bean@hotmail.com	769 West Road	Fairport	NY	14
7	Latasha	Hays	(716) 986-3359	latasha.hays@hotmail.com	7014 Manor Station Rd.	Buffalo	NY	14
8	Jacquline	Duncan	NULL	jacquline.duncan@yahoo.com	15 Brown St.	Jackson Heights	NY	11
9	Genoveva	Baldwin	NULL	genoveva.baldwin@msn.com	8550 Spruce Drive	Port Washington	NY	11
10	Pamelia	Newman	NULL	pamelia.newman@gmail.com	476 Chestnut Ave.	Monroe	NY	10
11	Deshawn	Mendoza	NULL	deshawn.mendoza@yahoo.com	8790 Cobblestone Street	Monsey	NY	10

ids 159 | customers 160 | categories 161 | stores 162 | stocks 163 | staffs 164 | products 165 | orders 166 | order_item



Key insights:

Most expensive bike

The most expensive bike is 'Trek Domane SLR 9 Disc - 2018'

```
##1- Which bike is most expensive?
select product_name,max(list_price) as price from products
group by product_name
ORDER BY price DESC
limit 1;
```

Customer count

The total number of customers= 1445

```
##2- How many total customers does BikeStore have?
SELECT
    COUNT(customer_id) AS total_customer
FROM
    customers;
```

Categories

- category most sold is
  - "'Cruisers Bicycles'"
- category rejected more orders is
  - "Cruisers Bicycles"

```
SELECT
    cate.category_name, SUM(order_items.quantity) AS total_quantity
FROM order_items
        INNER JOIN products AS pd ON order_items.product_id = pd.product_id
        INNER JOIN categories AS cate ON cate.category_id = pd.category_id
        GROUP BY cate.category_name ORDER BY total_quantity DESC LIMIT 1;
```

```
SELECT
    cate.category_name, COUNT(od.order_id) AS rejected_orders, od.order_status
FROM categories AS cate
        INNER JOIN products AS pd ON cate.category_id = pd.category_id
        INNER JOIN order_items AS it ON pd.product_id = it.product_id
        INNER JOIN orders AS od ON it.order_id = od.order_id
WHERE od.order_status = 3 GROUP BY cate.category_name ORDER BY rejected_orders DESC LIMIT 1;
```

Business insights

Sales revenue per store

the most store is “'Santa Cruz Bikes'”

```
42 •  SELECT
43        st.store_name,ROUND(SUM(list_price * quantity * (1 - discount)),3) AS Sales_reve
44    FROM order_items AS order_items
45          INNER JOIN orders AS od ON order_items.order_id = od.order_id
46          INNER JOIN stores AS st ON st.store_id = od.store_id
47    GROUP BY st.store_name;
```

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

store_name	Sales_revenue
Santa Cruz Bikes	1605823.036
Baldwin Bikes	5215751.277
Rowlett Bikes	867542.244

Most popular category

the most category is Cruisers Bicycles based on more sales is 2063

```
1 •  SELECT c.category_name, SUM(o.quantity) AS more_sales
2    FROM categories c
3          INNER JOIN products p ON c.category_id = p.category_id
4          INNER JOIN order_items o ON p.product_id = o.product_id
5          GROUP BY c.category_name ORDER BY more_sales DESC LIMIT 1;
```

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

category_name	more_sales
Cruisers Bicycles	2063

Better state

the better state is New York

```
42 •  SELECT
43        st.store_name,ROUND(SUM(list_price * quantity * (1 - discount)),3) AS Sales_reve
44    FROM order_items AS order_items
45          INNER JOIN orders AS od ON order_items.order_id = od.order_id
46          INNER JOIN stores AS st ON st.store_id = od.store_id
47    GROUP BY st.store_name;
```

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store_name	Sales_revenue
Santa Cruz Bikes	1605823.036
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Business insights

store still have more products of the most liked brand

The store is Santa Cruz Bikes has more product of most liked brand based on more sales

```sql
-- Step 1: Get the most liked brand into view (v_brand)
CREATE VIEW v_brand AS
    SELECT bd.brand_name
    FROM brands AS bd
            INNER JOIN products p ON bd.brand_id = p.brand_id
            INNER JOIN order_items o ON p.product_id = o.product_id
    GROUP BY bd.brand_name ORDER BY SUM(o.quantity) DESC LIMIT 1;
-- Step 2: Find the store with the most stock of the view
SELECT
    st.store_name, st.phone, st.city, SUM(si.quantity) AS total_product
FROM stores AS st
        INNER JOIN stocks si ON st.store_id = si.store_id
        INNER JOIN products p ON si.product_id = p.product_id
        INNER JOIN brands bd ON p.brand_id = bd.brand_id WHERE bd.brand_name = (SELECT brand_name FROM v_brand)
GROUP BY st.store_name , st.phone , st.city ORDER BY total_product DESC LIMIT 1;
```

sult Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

store_name	phone	city	total_product
Santa Cruz Bikes	(831) 476-4321	Santa Cruz	1715

bikes were sold in the last 8 months but children category =365

```sql
SELECT
    SUM(it.quantity) AS Total_sold_last_8_months
FROM
    products AS pd
        INNER JOIN
    order_items AS it ON it.product_id = pd.product_id
        INNER JOIN
    orders AS od ON od.order_id = it.order_id
WHERE
    category_id = 1
        AND order_date BETWEEN '2017-05-01' AND '2017-12-31'
GROUP BY category_id;
```

Conclusion

The BikeStore database efficiently manages and organizes essential business information—including products, customers, sales, and operations—through structured tables such as brands, products, customers, orders, and stocks. These insights enable the store to optimize pricing strategies, inventory management, and customer relationships, leading to improved overall business performance.

Thank You!