



OBJECTIVE



The objective of this project is to use SQL queries to gain insights into key aspects of Jensen's operations, including customer behavior, staff performance, inventory management, and store operations. By analyzing purchasing patterns, identifying highvalue customers, and assessing seasonal trends, we aim to improve marketing strategies. For staff performance, we will evaluate sales metrics and customer satisfaction to highlight top performers and areas for development. In inventory management, the goal is to optimize stock levels and reduce inefficiencies by tracking turnover rates and supplier performance. Finally, by analyzing store operations, we will optimize staffing and store hours to boost efficiency and sales across locations.

Project Questions

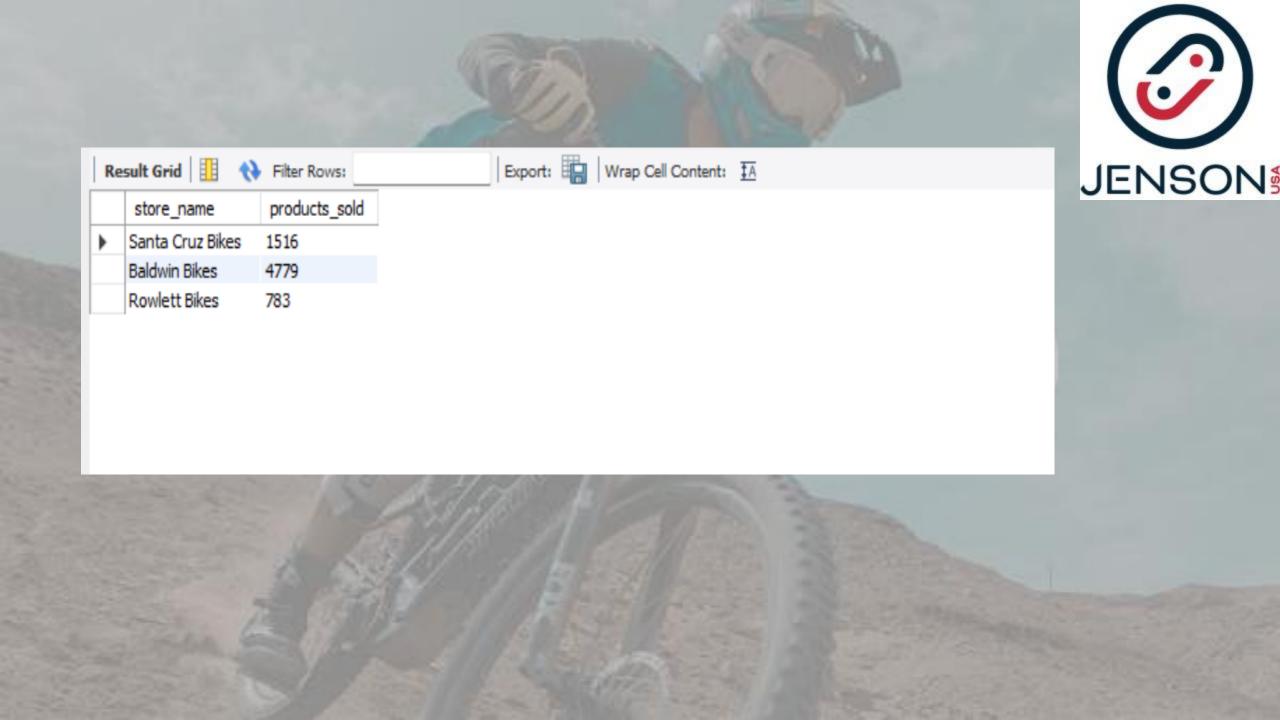
☐ Find the total number of products sold by each store along with the store name. ☐ Calculate the cumulative sum of quantities sold for each product over time. ☐ Find the product with the highest total sales (quantity * price) for each category. ☐ Find the customer who spent the most money on orders. ☐ Find the highest-priced product for each category name. ☐ Find the total number of orders placed by each customer per store. ☐ Find the names of staff members who have not made any sales. ☐ Find the top 3 most sold products in terms of quantity. ☐ Find the median value of the price list. ☐ List all products that have never been ordered.(use Exists) ☐ List the names of staff members who have made more sales than the average number of sales by all staff members. ☐ Identify the customers who have ordered all types of products (i.e., from every category).



Find the total number of products sold by each store along with the store name?

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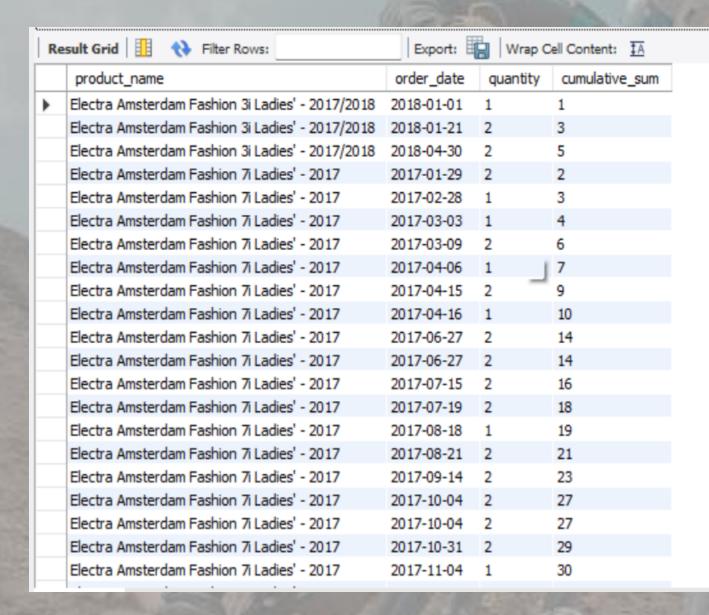
```
| 🕝 🔞 | 👸 | Limit to 1000 rows 🔻 | 🚖 | 🥩 🔍 🗻 🖘
     # Find the total number of products sold by each store along with the store name.
 2
     # Important Tables
     # stores - name
     # orders - order id
     # order_items - quantity
     Select stores.store_name,
     sum(order_items.quantity) products_sold
10
     from stores join orders
11
     on stores.store_id = orders.store_id
     join order_items
12
     on order_items.order_id = orders.order_id
13
     group by stores.store_name;
14
15
```



Calculate the cumulative sum of quantities sold for each product over time?



```
# Calculate the cumulative sum of quantities sold for each product over time.
      # Imporatnt Tables
      # Products - product name
      # Orders - order date
      # Order Items - Quantity
      Select products.product name,
      orders.order date,
      order items.quantity,
10
      sum(order_items.quantity) over(partition by products.product_name order by orders.order_date) cumulative_sum
11
      from products join order_items
12
      on products.product id = order items.product id
13
      join orders
14
      on orders.order_id = order_items.order_id;
15
```







Find the product with the highest total sales (quantity * price) for each category?

```
# Find the product with the highest total sales (quantity * price) for each category.
 1
 2
      # Imporatnt Tables
      # Products - product name
      # Orders Items - Saled (Quantity * Price)
      # Categories - category name
      with a as
      (select categories.category name, products.product name,
10
      sum(order items.quantity*order items.list price) as sales
11
      from categories join products
      on categories.category id = products.category id
12
13
      join order items
      on products.product id = order items.product id
14
15
      group by categories.category name, products.product name)
16
      Select category name, product name from
17
      (Select *, rank() over(partition by category name order by sales desc) rnk
18
19
      from a) b
      where rnk = 1;
20
```





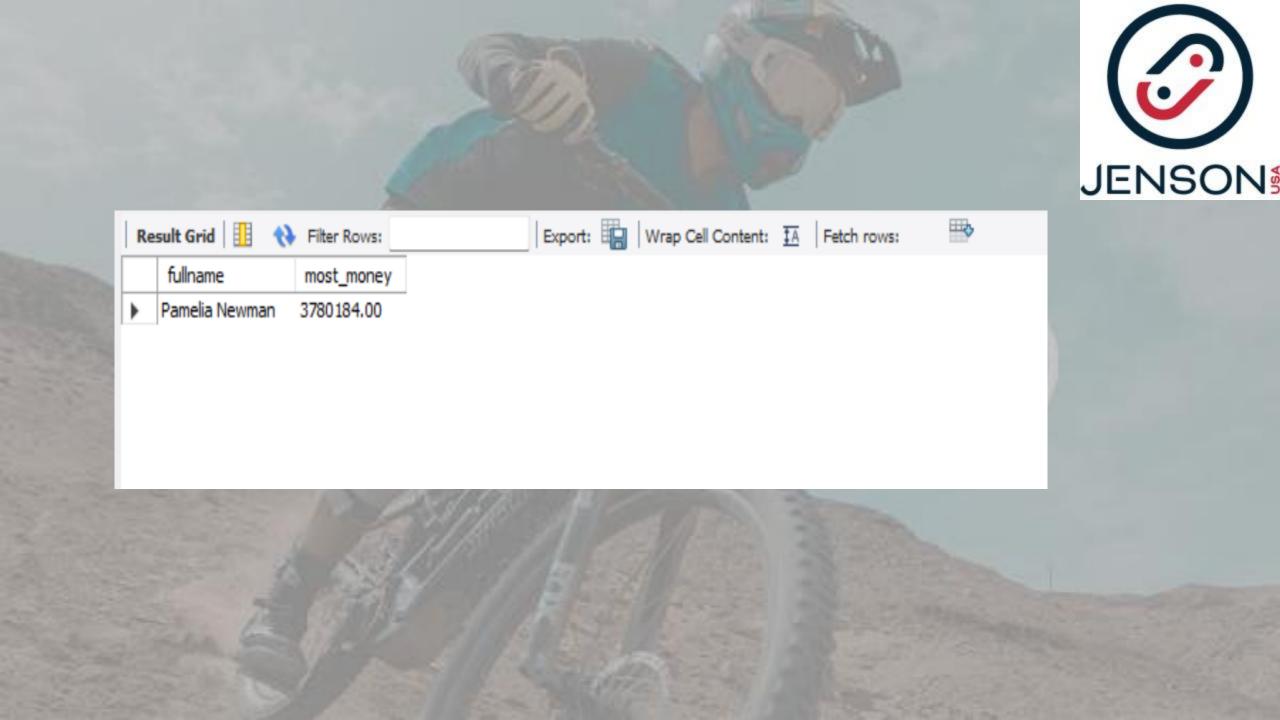
	category_name	product_name
Þ	Children Bicycles	Electra Girl's Hawaii 1 (20-inch) - 2015/2016
	Comfort Bicycles	Electra Townie Original 7D EQ - 2016
	Cruisers Bicycles	Electra Townie Original 7D EQ - 2016
	Cydocross Bicydes	Surly Straggler 650b - 2016
	Electric Bikes	Trek Conduit+ - 2016
	Mountain Bikes	Trek Slash 8 275 - 2016
	Road Bikes	Trek Domane SLR 6 Disc - 2017



Find the customer who spent the most money on orders?

```
# Find the customers who spent most money on orders
     # Important Tables
     # Customers- First name and Last Name
     # Order items - Quantity and Price
     # Orders - Bridge Table
     Select concat(customers.first_name," ", customers.last_name) as fullname,
     sum(order_items.quantity*order_items.list_price) most_money
10
11
     from customers join orders
12
     on customers.customer_id = orders.customer_id
13
     join order items
14
     on orders.order_id = order_items.order_id
15
     group by fullname
     order by most_money desc
16
     limit 1;
17
```





Find the highest-priced product for each category name?

```
# Find the highest priced product for each category name
1
 2
 3
      # Imporatnt Tables
      # Products - product name
      # Order Items - List price
      # Categories - category name
 6
      with a as
      (select categories.category name, products.product name,
10
      sum(order items.list price) as price
11
      from categories join products
12
      on categories.category_id = products.category_id
13
      join order items
      on products.product id = order items.product id
14
15
      group by categories.category_name, products.product_name)
16
17
      Select category name, product name from

⊖ (Select *, rank() over(partition by category_name order by price desc) rnk

18
19
      from a) b
      where rnk = 1;
20
```







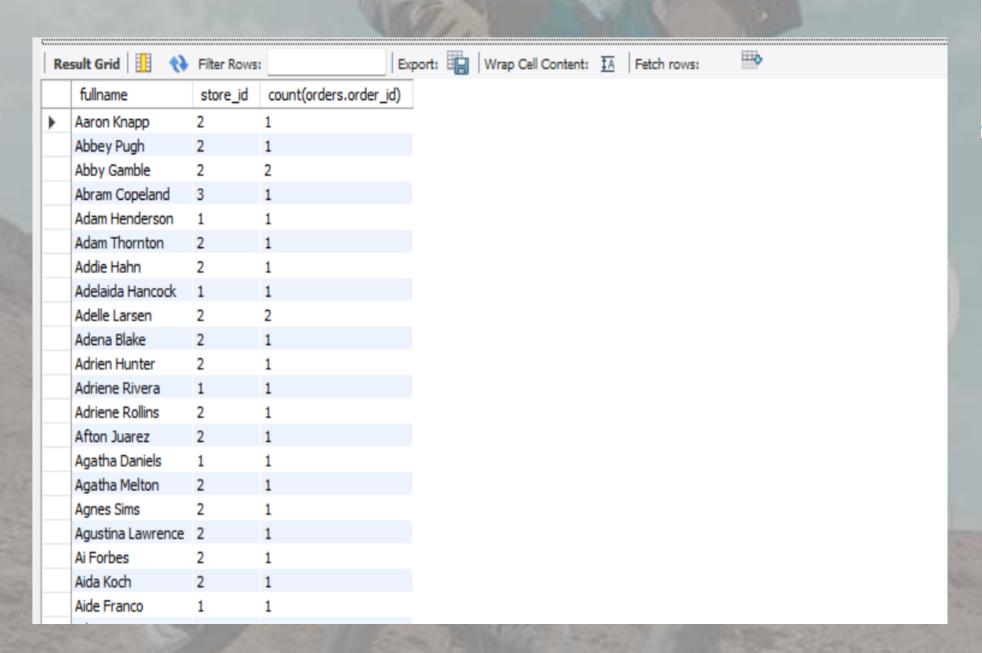
	category_name	product_name
•	Children Bicycles	Electra Girl's Hawaii 1 (20-inch) - 2015/2016
	Comfort Bicycles	Electra Townie Original 7D EQ - 2016
	Cruisers Bicycles	Electra Townie Original 21D - 2016
	Cyclocross Bicycles	Surly Straggler 650b - 2016
	Electric Bikes	Trek Conduit+ - 2016
	Mountain Bikes	Trek Slash 8 275 - 2016
	Road Bikes	Trek Domane SLR 6 Disc - 2017



Find the total number of orders placed by each customer per store?



```
# Find the total number of order placed by each customer per store
 1
     # Important Table
     # Customers - Customer name
    # Stores - Store name
     # Orders - Total orders
     Select concat(customers.first_name," ", customers.last_name) as fullname,
     orders.store_id, count(orders.order_id)
     from customers join orders
10
     on customers.customer_id = orders.customer_id
     group by fullname,
    orders.store_id
13
     order by fullname;
14
```

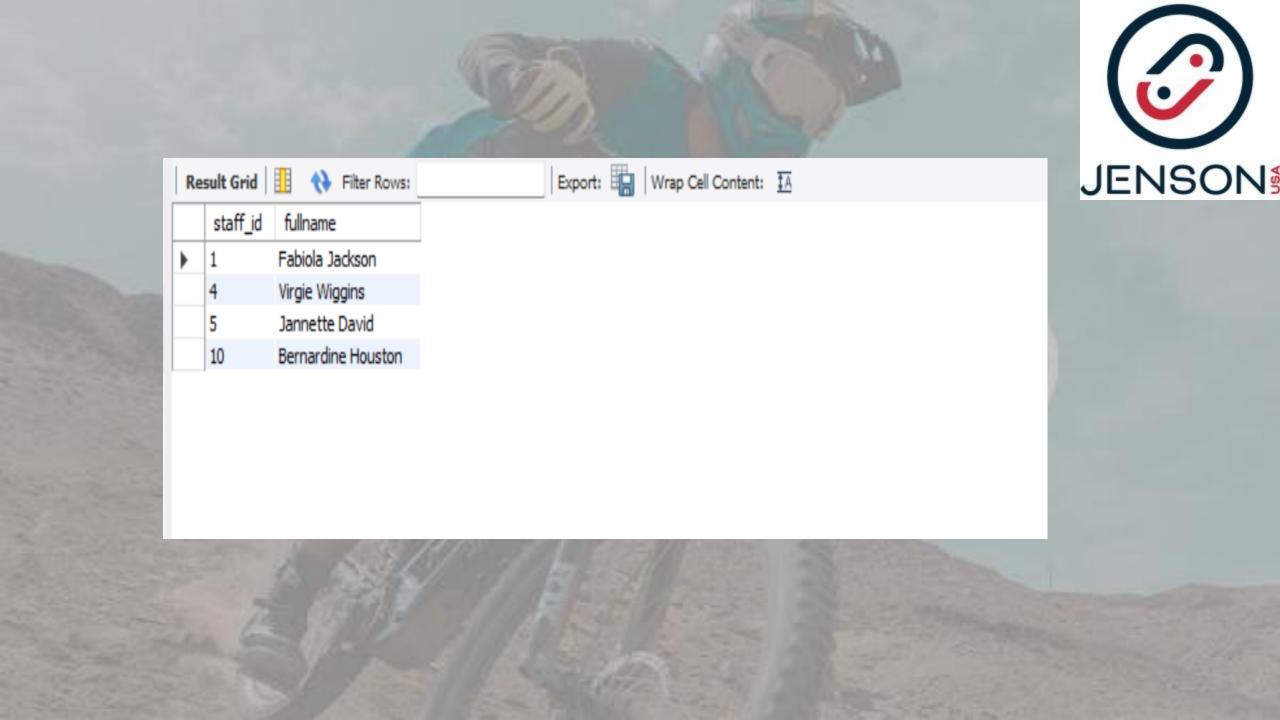




Find the names of staff members who have not made any sales?

```
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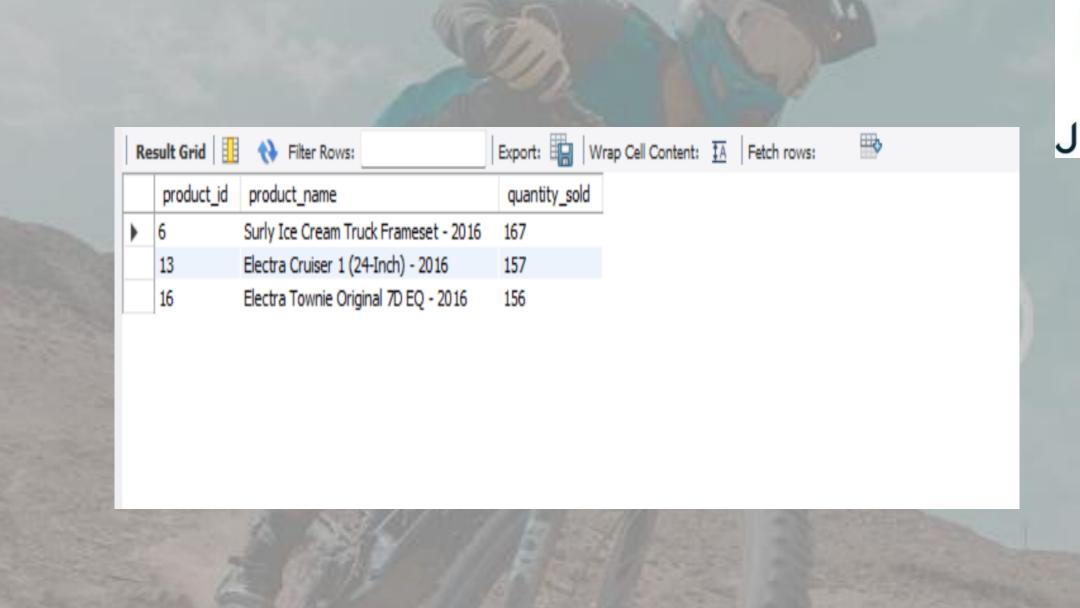
```
# Find the names of staff members who have not made any sales.
    # Important Tables
    # Staffs - Staff_id, Staff First Name, Staff Last Name
    # Orders - To check the condition
    Select staffs.staff_id,
    concat(staffs.first_name," ",staffs.last_name) fullname
    from staffs
    where staff_id not in (Select staff_id from orders);
10
```



Find the top 3 most sold products in terms of quantity?

```
# Find the top 3 most sold products in terms of quantity.
    # Important Table
    # Products - Product Id, Product Name
    # Order Items - Quantity
 6
    Select products.product_id, products.product_name,
    sum(order items.quantity) quantity sold
    from products join order_items
    on products.product_id = order_items.product_id
10
11
    group by products.product id, products.product name
    order by quantity_sold desc
12
    limit 3;
13
```



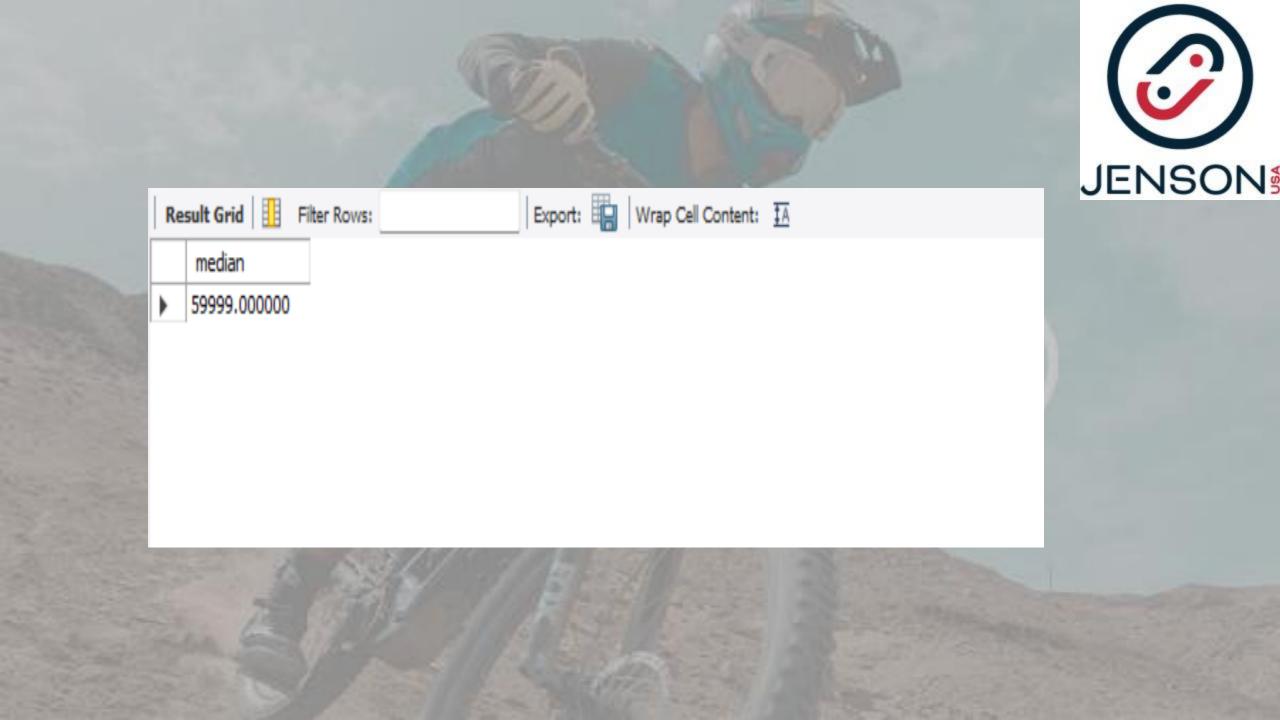




Find the median value of the price list?

```
# Find the median value of the price list.
     # Important Table
     # Order Items - Row Numbers
     # Important Function - row number and case
 7 • ⊖ with a as(Select list_price,
     row_number() over(order by list_price) pos,
     count(*) over() n
     from order_items)
10
11
    ⊖ Select case
     when n % 2 = 0 then (select avg(list_price) from a where pos in ((n/2), (n/2)+1))
13
     else (Select list_price from a where pos = (n+1)/2)
14
     end as median from a
15
     limit 1;
16
```





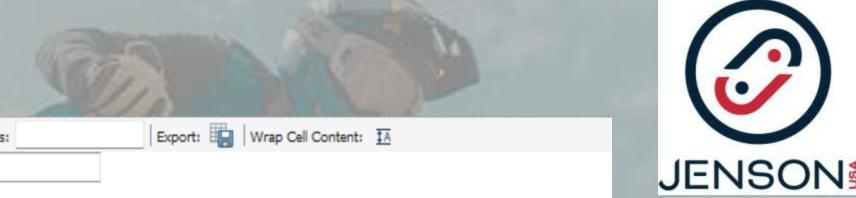


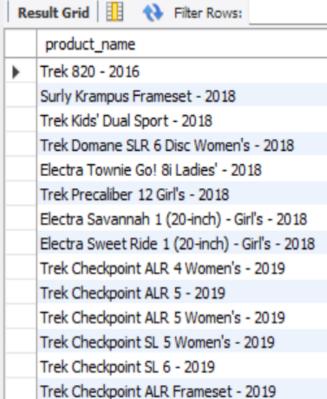
List all products that have never been ordered?(use Exists)



```
# List all products that have never been ordered.(use Exists)

Select product_name from products
where not exists( select product_id from order_items
where products.product_id = order_items.product_id)
```



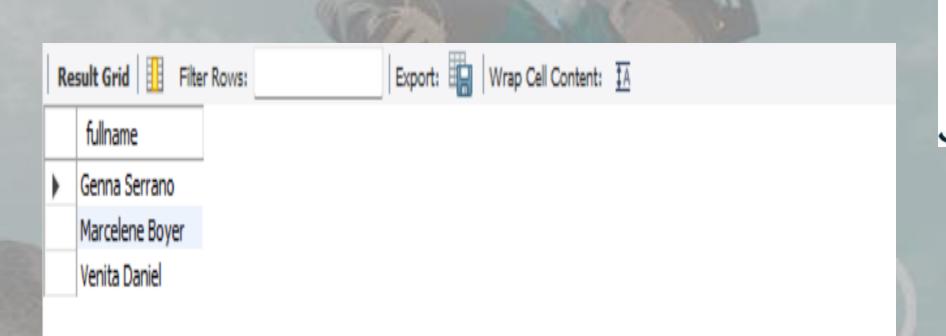


List the names of staff members who have made more sales than the average number of sales by all staff members?

```
# List the names of staff members who have made more sales than the average number of sales by all staff members.
 2
      # Important Table
      # Staffs - Satff First name, Staff Last name
      # Order Items - Quantity , Price
      # Orders - Bridge Table

with a as (Select concat(staffs.first name," ",staffs.last name) as fullname,
      coalesce(sum(order items.quantity*order items.list price),0) sales
      from staffs left join orders
10
      on staffs.staff id = orders.staff id
11
      left join order items
12
      on orders.order id = order items.order id
13
14
      group by fullname)
15
      Select fullname from a
16
      where sales > (Select avg(sales) from a);
17
```



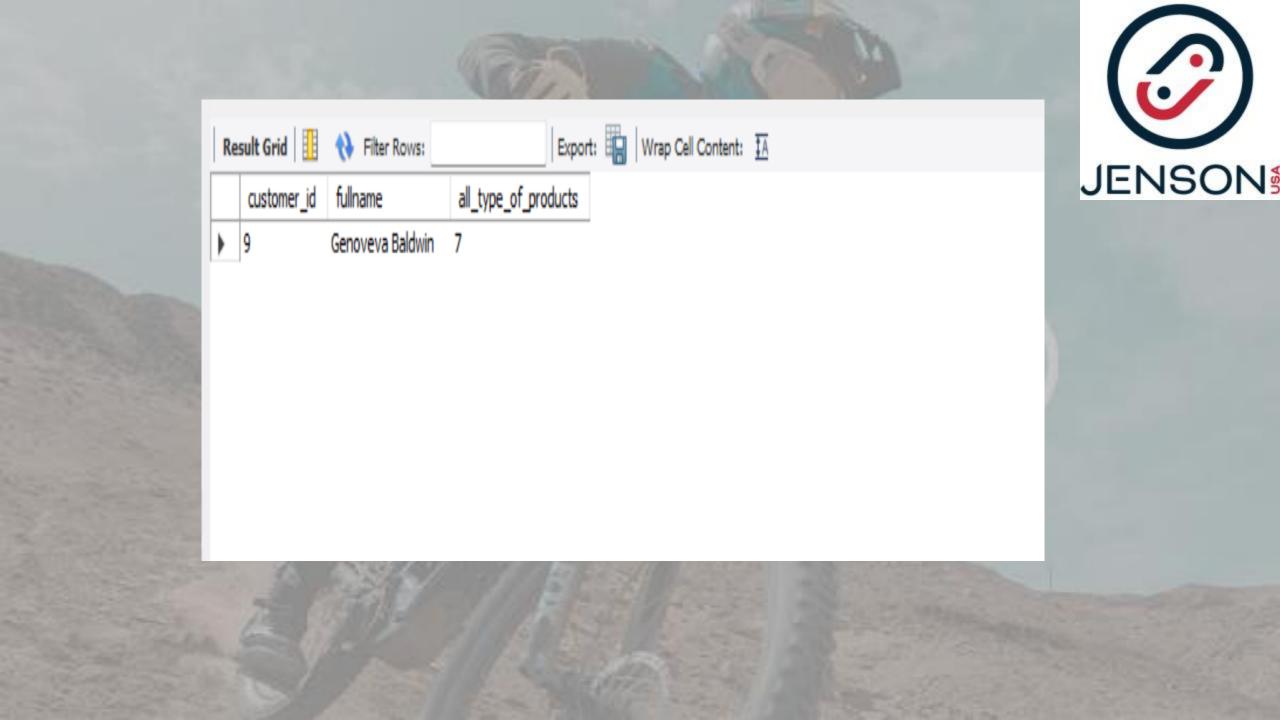




ordered all types of products (i.e., from every category)?

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```

```
# Identify the customers who have ordered all types of products (i.e., from every category).
 1
      # Important Tables
 3
      # Customers - Customer Id , Customer first name, Customer last name
      # Products - Category Id
      # Orders and Order Items - Bridge Tables
 6
      Select customers.customer id, concat(customers.first name, " ", customers.last name) as fullname,
      count(distinct products.category id) all type of products
 9
10
      from customers join orders
11
      using(customer id)
      join order_items
12
      using(order id)
13
14
      join products
15
      using(product id)
16
      group by customers.customer id, fullname
17
      having count(distinct products.category id) = (Select count(category id) from categories);
```



KEY INSIGHTS

- JENSON!
- Among all the stores **Baldwin Bikes** have sold the most product (4779 units).
- **Pamelia Newman** have spent most money on orders of \$3780184.00.
- >Staff members who have not made any sales are

Fabiola Jackson

Virgie Wiggins

Jannette David

Bernardine Houston

KEY INSIGHTS

- The median value of list price is \$59999.00.
- >Staff member who have made sales above average are

Genna Serrano

Marcelene Boyer

Venita Daniel

>Top 3 most sold products in terms of quantity are

Surly Ice Cream Truck Frameset-2016 (167)

Electra Cruiser 1(24-Inch)-2016 (157)

Electra Townie original 7D EQ -2016 (156)



KEY INSIGHTS



Customer who have ordered all type of product (i.e. from every category) is **Genoveva Baldwin.**

JENSONS (C)

