Basic Queries

1. Retrieve all records from the brands table.
2. List all products with a list price greater than $1000.
3. Find all customers who live in New York (NY).
4. Display the names and email addresses of all customers.
5. Retrieve all orders placed in the year 2016.
6. List all products that belong to the 'Mountain Bikes' category.
7. Find the total number of products in each category.
8. Retrieve the details of the product with the highest list price.
9. List all orders along with the customer names who placed them.
10. Find all products that were listed in the year 2017.

Aggregation and Grouping

1. Calculate the average list price of all products.
2. Find the total quantity of each product sold.
3. Calculate the total sales amount for each store.
4. Find the number of orders placed by each customer.
5. Calculate the total discount given on all orders.
6. Find the average list price of products in each category.
7. Retrieve the total number of orders placed in each month of 2016.
8. Calculate the total revenue generated from each product category.
9. Find the total number of customers in each state.
10. Calculate the total quantity of products sold in each year.

Joins

1. Retrieve all orders along with the product details.
2. List all customers along with the orders they have placed.
3. Find all products that have never been ordered.
4. Retrieve the details of all orders along with the store and staff details.
5. List all products along with their brand and category names.

6. Find all customers who have placed more than 5 orders.
7. Retrieve the details of all orders placed by customers from California (CA).
8. List all products along with the total quantity sold for each product.
9. Find all orders that include products from the 'Electric Bikes' category.
10. Retrieve the details of all orders along with the total discount applied.

Subqueries

1. Find the product with the second highest list price.
2. Retrieve the details of the most expensive product in each category.
3. Find all customers who have never placed an order.
4. List all products that have been ordered more than 10 times.
5. Retrieve the details of the latest order placed by each customer.
6. Find the total revenue generated from orders placed in the first quarter of 2016.
7. List all products that have a list price higher than the average list price.
8. Retrieve the details of all orders placed in the last month.
9. Find the customer who has placed the highest number of orders.
10. List all products that belong to brands that have more than 5 products.

Advanced Queries

1. Calculate the total revenue generated from each customer.
2. Find the top 5 products with the highest total sales.
3. Retrieve the details of all orders that include more than 3 different products.
4. Calculate the total discount given to each customer.
5. Find the average list price of products for each brand.
6. Retrieve the details of all orders placed in the last 7 days.
7. Find the total quantity of products sold in each store.
8. Calculate the total revenue generated from each product in each year.
9. Find the top 3 customers with the highest total order value.
10. Retrieve the details of all orders that include products from more than one category.

Data Manipulation

1. Insert a new product into the products table.

2. Update the list price of all products in the 'Road Bikes' category by 10%.
3. Delete all orders placed before 2016.
4. Insert a new customer into the customers table.
5. Update the email address of a customer.
6. Delete a product from the products table.
7. Insert a new order into the orders table.
8. Update the quantity of a product in an order.
9. Delete a customer from the customers table.
10. Insert a new category into the categories table.

Functions and Stored Procedures

1. Create a function to calculate the total sales for a given product.
2. Write a stored procedure to retrieve all orders for a given customer.
3. Create a function to calculate the average list price of products in a given category.
4. Write a stored procedure to insert a new order.
5. Create a function to calculate the total discount given on all orders.
6. Write a stored procedure to update the list price of a product.
7. Create a function to calculate the total quantity sold for a given product.
8. Write a stored procedure to delete an order.
9. Create a function to calculate the total revenue generated from a given category.
10. Write a stored procedure to retrieve all products in a given category.

Performance Tuning

1. Create an index on the products table for the list_price column.
2. Analyze the query execution plan for retrieving all orders.
3. Optimize a query to retrieve the top 10 most expensive products.
4. Create an index on the orders table for the order_date column.
5. Analyze the query execution plan for calculating the total sales for each store.
6. Optimize a query to retrieve all customers who have placed more than 5 orders.
7. Create an index on the customers table for the state column.
8. Analyze the query execution plan for retrieving all products in a given category.

9. Optimize a query to calculate the total revenue generated from each product.
10. Create an index on the orders table for the customer_id column.

Data Analysis

1. Find the trend of total sales over the years.
2. Analyze the distribution of product prices.
3. Find the correlation between product price and quantity sold.
4. Analyze the sales performance of each store.
5. Find the most popular product category.
6. Analyze the purchasing behavior of customers from different states.
7. Find the trend of total orders placed each month.
8. Analyze the impact of discounts on total sales.
9. Find the most frequently ordered product.
10. Analyze the sales performance of each brand.

Miscellaneous

1. Retrieve the details of all orders that were shipped late.
2. Find the total number of products that have been discontinued.
3. Retrieve the details of all customers who have not placed an order in the last year.
4. Find the total revenue generated from orders placed on weekends.
5. Retrieve the details of all products that have been ordered in the last month.
6. Find the total quantity of products sold in each quarter.
7. Retrieve the details of all orders that include products from the 'Children Bicycles' category.
8. Find the total revenue generated from each customer in each year.
9. Retrieve the details of all orders that were placed but not shipped.
10. Find the total number of products that belong to each brand.

Joins (Set 2)

1. Retrieve all orders along with the customer and store details.
2. List all products along with their brand, category, and the total quantity sold.
3. Find all customers who have placed orders for products from more than one category.
4. Retrieve the details of all orders along with the product, brand, and category details.
5. List all customers along with the total value of orders they have placed.
6. Find all stores that have sold products from the 'Electric Bikes' category.
7. Retrieve the details of all orders along with the customer and product details, sorted by order date.
8. List all products that have been ordered by customers from California (CA).
9. Find all orders that include products from brands that have more than 10 products.
10. Retrieve the details of all orders along with the total quantity and total price for each order.

Joins (Set 3)

1. List all customers who have ordered products from the 'Mountain Bikes' category.
2. Find the total revenue generated from each store, including store details.
3. Retrieve the details of all orders placed by customers who live in New York (NY).
4. List all products along with the total quantity sold and the total revenue generated for each product.
5. Find all orders that include products from more than one brand.
6. Retrieve the details of all orders along with the customer, product, and store details.
7. List all customers who have placed orders for products from the 'Road Bikes' category.
8. Find the total quantity of products sold in each store, including store details.
9. Retrieve the details of all orders placed in the last year along with the customer and product details.
10. List all products that have been ordered by customers from more than one state.
11. Find all orders that include products from the 'Children Bicycles' category.
12. Retrieve the details of all orders along with the total discount applied and the customer details.
13. List all customers who have placed orders for products from more than one brand.
14. Find the total revenue generated from each product category, including category details.
15. Retrieve the details of all orders placed by customers who have ordered more than 5 different products.