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# Sales Data Analysis with SQL

amazon

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# INTRODUCTION

This project uses SQL to analyze Amazon's sales data, focusing on product prices, discounts, and customer reviews. The goal is to clean and transform the data to find useful insights, such as affordable products, popular deals, and customer feedback patterns. These insights will help improve sales strategies, product selection, and customer satisfaction.

## List all products with a discounted price below ₹500

This query retrieves the product name and discounted price for all items where the price after discount is less than ₹500. By targeting such products, the company can highlight affordable options to customers, driving sales in the low-cost segment and increasing conversion rates for price-conscious buyers.

```sql
#List all products with a discounted price below ₹500

SELECT
    product_name
FROM
    mytable
WHERE
    discounted_price < 500;
```

## Find products with a discount percentage of 50% or more.

This query calculates the discount percentage and retrieves all products where the discount is 50% or more. Identifying such products is valuable for promoting significant savings to customers, making it easier for the company to highlight large discounts during sales events or special promotions.

```sql
#Find products with a discount percentage of 50% or more.

SELECT
    product_name
FROM
    mytable
WHERE
    discounted_price >= 0.50;
```

## Retrieve all products where the name contains the word "Cable."

This query looks for any products with "Cable" in the name, whether at the beginning, middle, or end. It’s useful for filtering products related to cables, making it easier for customers to find the items they’re looking for, and for the company to target relevant categories for specific marketing campaigns.

```sql
#Retrieve all products where the name contains the word "Cable."

SELECT
    product_name
FROM
    mytable
WHERE
    product_name LIKE '%cable%';
```

## Display the difference between the average of the actual price and the discounted price for each product.

This query calculates the average actual price and average discounted price for each product, then finds the difference between the two. Understanding this price difference allows the company to assess how much discount is typically offered on each product and helps in evaluating the effectiveness of their discount strategy in driving sales.

```sql
#Display the difference between the average of the
#actual price and the discounted price for each product.

SELECT
    product_name,
    AVG(actual_price - discounted_price) avg_price_diff
FROM
    mytable
GROUP BY product_name;
```

## Query reviews that mention "fast charging" in their content.

This query retrieves reviews that include the phrase "fast charging." It helps the company understand customer opinions about this feature, enabling product teams to improve items based on feedback or highlight products with positive reviews for their fast charging capabilities.

```sql
#Query reviews that mention "fast charging" in their content.

SELECT
    review_content
FROM
    mytable
WHERE
    review_content LIKE '%fast charging%';
```

## Identify products with a discount percentage between 20% and 40%.

This query calculates the discount percentage for each product and retrieves those where the discount falls between 20% and 40%. This is useful for targeting mid-range discounts that attract customers looking for moderate savings, enabling the company to focus on products with competitive but not extreme discounts.

```sql
#Identify products with a discount percentage between 20% and 40%.

SELECT
    product_name
FROM
    mytable
WHERE
    discount_percentage BETWEEN 0.20 AND 0.40;
```

## Find products that have an actual price above ₹1,000 and are rated 4 stars or above.

This query retrieves products that are priced above ₹1,000 and have a rating of 4 stars or higher. It helps the company identify premium products that are well-rated by customers, enabling them to promote high-quality, high-value items to discerning buyers.

```sql
#Find products that have an actual price above ₹1,000
#and are rated 4 stars or above.

SELECT
    product_name
FROM
    mytable
WHERE
    actual_price > 1000 AND rating >= 4;
```

## Find products where the discounted price ends with a 9

This query retrieves products whose discounted price ends with the digit 9 (e.g., ₹299, ₹499). This pricing strategy, often referred to as "charm pricing," is commonly used in retail to make prices appear more appealing to customers. Identifying these products helps in analyzing how widely this strategy is applied across the product range.

```sql
#Find products where the discounted price ends with a 9

SELECT
    product_name, discounted_price
FROM
    mytable
WHERE
    discounted_price LIKE '%9%';
```

## Display review contents that contains words like worst, waste, poor, or not good.

This query retrieves reviews that mention any of the specified negative keywords. By identifying these reviews, the company can focus on areas for improvement and address customer concerns, helping to enhance product quality and customer satisfaction.

```sql
#Display review contents that contains words like worst,
#waste, poor, or not good.

SELECT
    review_content
FROM
    mytable
WHERE
    review_content LIKE '%worst%'
        OR review_content LIKE '%waste%'
        OR review_content LIKE '%poor%'
        OR review_content LIKE '%not good%';
```

## List all products where the category includes "Accessories."

This query retrieves products whose category contains the word "Accessories." It helps the company easily identify and manage products related to accessories, enabling them to focus on inventory, marketing, and sales strategies for this category.

```sql
#List all products where the category includes "Accessories."

SELECT
    product_name
FROM
    mytable
WHERE
    category LIKE '%Accessories%'
```

# CONCLUSION

This project demonstrates the power of SQL in analyzing Amazon's sales data to uncover valuable insights on pricing, discounts, and customer reviews. By cleaning and transforming the data, we identified key trends that can enhance sales strategies, improve product offerings, and better understand customer preferences. The findings from this analysis can be used to make informed decisions that boost customer satisfaction and drive business growth

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