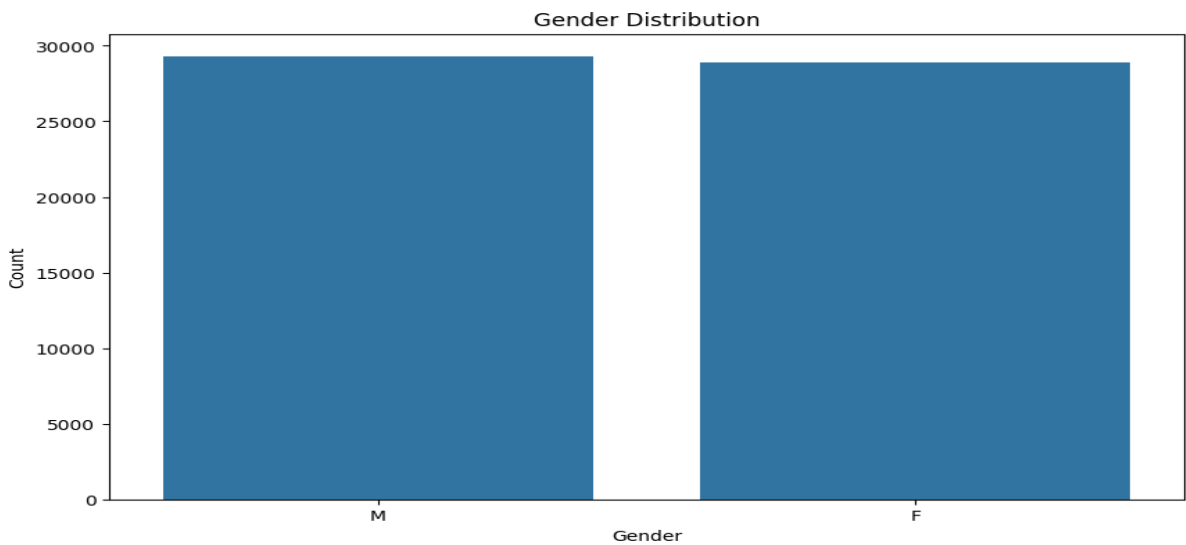# Customer Demographics: Gender Distribution

The bar chart for Gender Distribution shows that the customer base is nearly evenly split between males (M) and females (F). Both genders have similar representation, with the count of male customers slightly higher than that of female customers. This indicates that the products appeal to both genders almost equally, suggesting that marketing efforts can be effectively targeted towards both male and female demographics to maximize reach and engagement.

## Identify Top-Selling Products
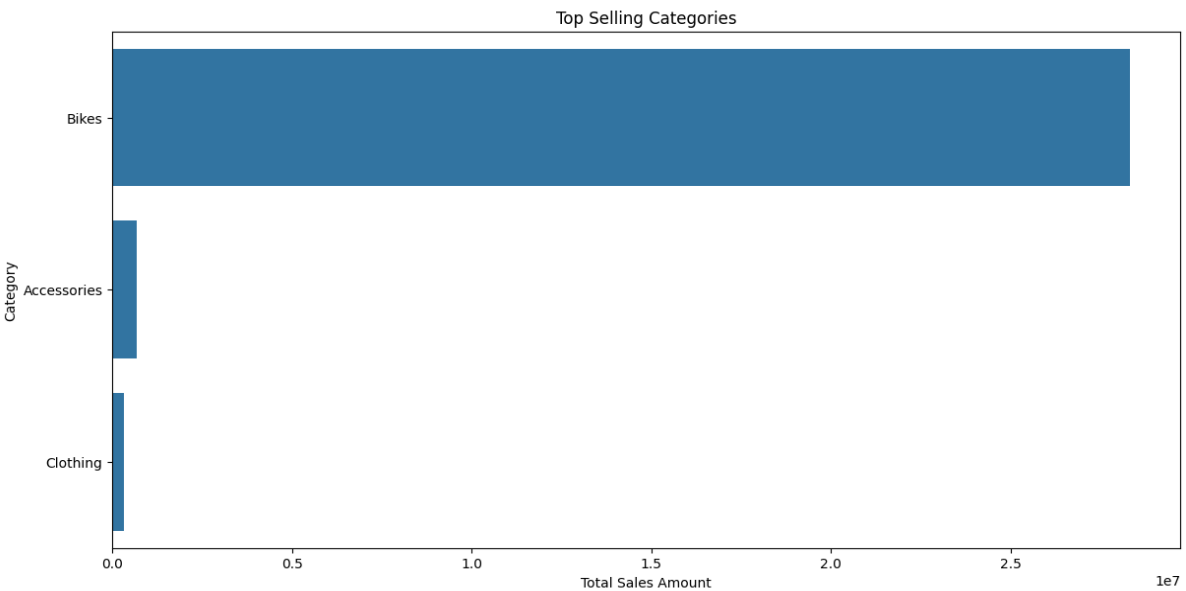
The bar chart for the Top 10 Selling Products shows that "Mountain-200 Black, 46" is the highest-selling product, followed closely by other variants of "Mountain-200" and "Road-150". The "Mountain-200" series dominates the top ranks, indicating it is the most popular product line. The "Road-150" series also performs well, securing multiple spots in the top 10. This suggests that focusing on these popular product lines could be beneficial for driving sales.

Segment Customers Based on Demographics and Purchasing Behaviour

Education Level Distribution
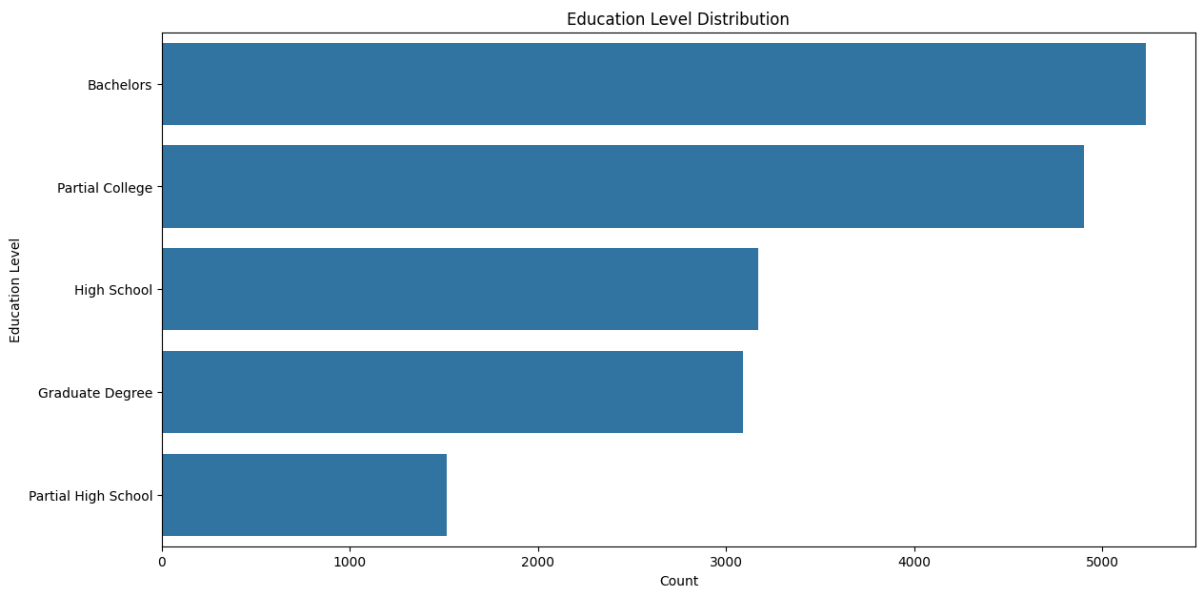
The bar chart for Education Level Distribution shows that the majority of customers hold a Bachelor's degree, followed by those with partial college education. High School and Graduate Degree holders are also well-represented, while customers with only partial high school education form the smallest group. This suggests that the customer base is predominantly well-educated, with a significant portion having completed higher education.

Heatmap of Missing Values
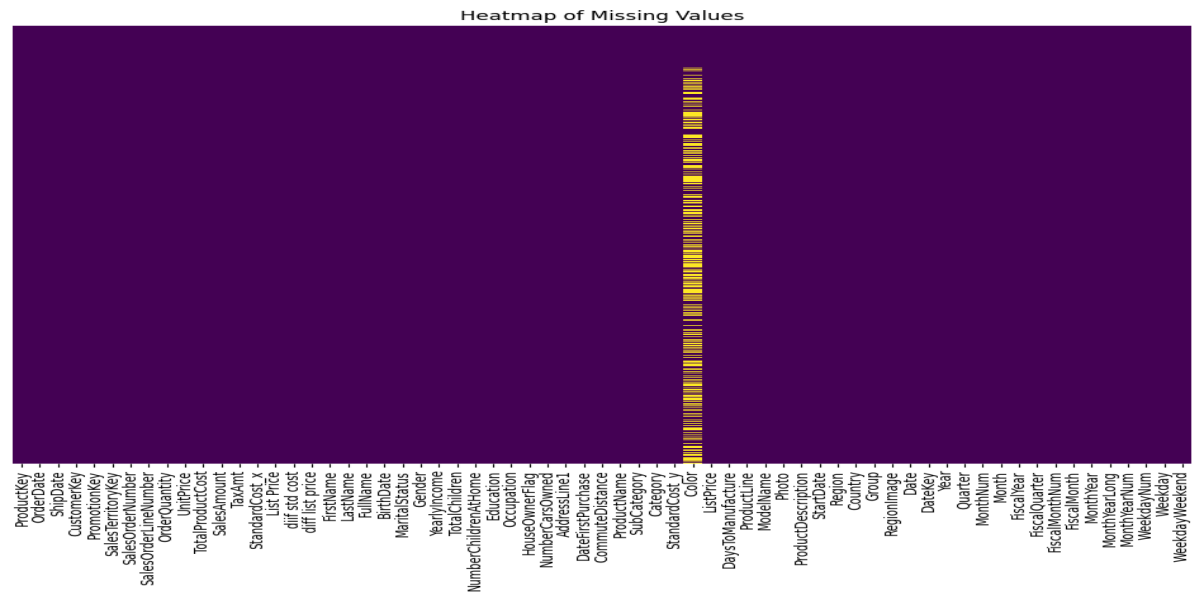
The heatmap shows that most columns in the dataset have no missing values, indicated by the solid purple color. However, the Color column stands out with many missing values, represented by the yellow lines. This suggests that the Color column requires attention for data cleaning or imputation. Other columns appear to be complete and do not require further handling for missing data.

Identifying Seasonal Sales Trends

Monthly Sales Trends by Subcategory
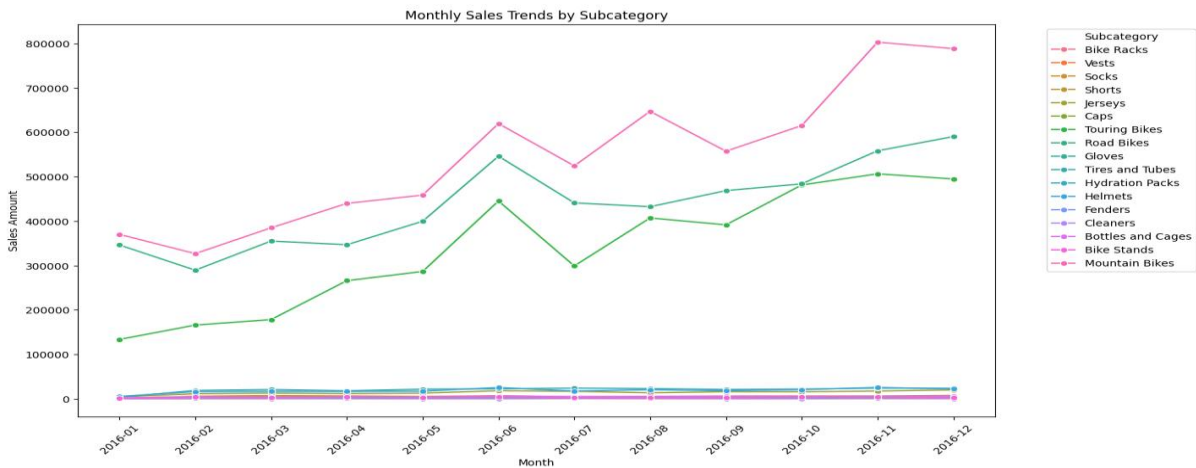
Monthly Sales Trends by Category:

1. **Bikes:** This category shows a significant upward trend over the year, indicating strong and growing sales. The sales start at around 300,000 and rise steadily, peaking at approximately 700,000 by the end of the year.

2. **Accessories and Clothing:** These categories have relatively flat sales trends, with minimal fluctuations and much lower sales amounts compared to Bikes.

Bottom 10 Performing Products

Bottom 10 Performing Products
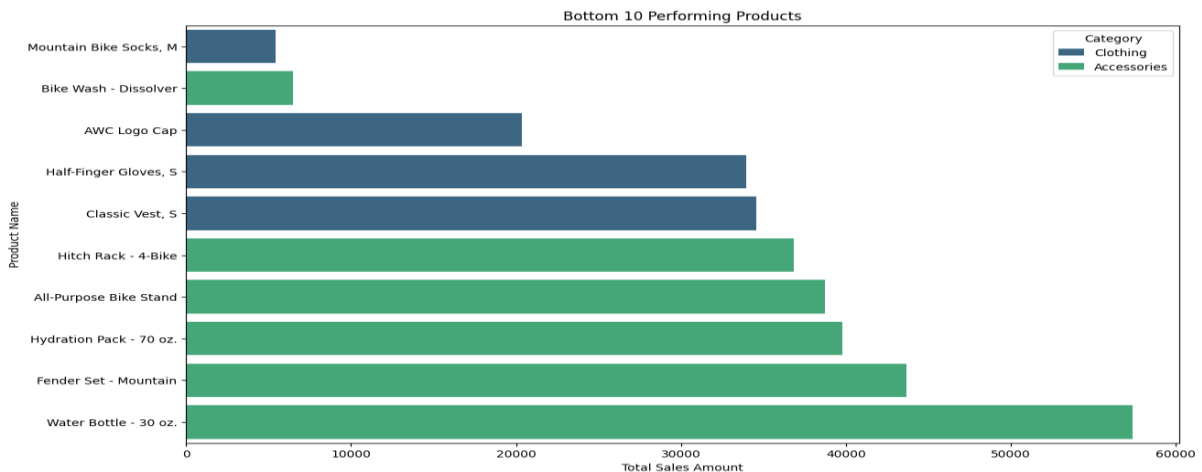
Bottom Performing Products:

1. The bottom-performing products include accessories and clothing items such as "Water Bottle - 30 oz.," "Fender Set - Mountain," and "Hydration Pack - 70 oz."
2. These products have relatively low sales amounts, suggesting they are not as popular or in demand as the top-performing products.