

Automated EDA Report

The file has 9994 rows and 21 columns.

Column names in the file are:

```
['Row ID', 'Order ID', 'Order Date', 'Ship Date', 'Ship Mode', 'Customer ID', 'Customer Name',  
'Segment', 'Country', 'City', 'State', 'Postal Code', 'Region', 'Product ID', 'Category',  
'Sub-Category', 'Product Name', 'Sales', 'Quantity', 'Discount', 'Profit']
```

Data types of each column:

```
Row ID          int64  
Order ID        object  
Order Date      object  
Ship Date       object  
Ship Mode       object  
Customer ID     object  
Customer Name   object  
Segment         object  
Country         object  
City             object  
State            object  
Postal Code     int64  
Region           object  
Product ID      object  
Category         object  
Sub-Category    object  
Product Name    object  
Sales            float64  
Quantity         int64  
Discount         float64  
Profit           float64  
dtype: object
```

Number of unique values in each column:

```
Row ID          9994  
Order ID        5009  
Order Date      1237  
Ship Date       1334  
Ship Mode        4  
Customer ID     793  
Customer Name   793  
Segment          3  
Country          1  
City             531  
State            49  
Postal Code     631  
Region           4  
Product ID      1862  
Category          3  
Sub-Category    17  
Product Name    1850  
Sales            5825  
Quantity         14  
Discount         12  
Profit           7287  
dtype: int64
```

Number of null values in each column:

```
Row ID          0  
Order ID        0  
Order Date      0
```

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```
Ship Date      0
Ship Mode      0
Customer ID    0
Customer Name   0
Segment         0
Country         0
City            0
State           0
Postal Code     0
Region          0
Product ID      0
Category         0
Sub-Category    0
Product Name    0
Sales            0
Quantity         0
Discount         0
Profit           0
dtype: int64
-----
```

```
Percentage of missing values in each column:
Row ID        0.0
Order ID       0.0
Order Date     0.0
Ship Date      0.0
Ship Mode       0.0
Customer ID    0.0
Customer Name   0.0
Segment         0.0
Country         0.0
City            0.0
State           0.0
Postal Code     0.0
Region          0.0
Product ID      0.0
Category         0.0
Sub-Category    0.0
Product Name    0.0
Sales            0.0
Quantity         0.0
Discount         0.0
Profit           0.0
dtype: float64
-----
```

```
Total duplicate rows in the dataset: 0
-----
```

```
Summary statistics for numeric columns:
      Row ID  Postal Code    Sales  Quantity  Discount  Profit
count  9994.00      9994.00  9994.00  9994.00  9994.00  9994.00
mean   4997.50     55190.38   229.86    3.79    0.16   28.66
std    2885.16     32063.69   623.25    2.23    0.21  234.26
min    1.00      1040.00    0.44    1.00    0.00 -6599.98
25%   2499.25     23223.00   17.28    2.00    0.00   1.73
50%   4997.50     56430.50   54.49    3.00    0.20   8.67
75%   7495.75     90008.00  209.94    5.00    0.20  29.36
max   9994.00     99301.00  22638.48   14.00    0.80  8399.98
-----
```

```
Correlation matrix (numeric columns only):
      Row ID  Postal Code    Sales  Quantity  Discount  Profit
Row ID           1.00      0.01  -0.00   -0.00    0.01   0.01
Postal Code      0.01      1.00  -0.02   -0.01    0.06  -0.03
-----
```

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Sales	-0.00	-0.02	1.00	0.20	-0.03	0.48
Quantity	-0.00	0.01	0.20	1.00	0.01	0.07
Discount	0.01	0.06	-0.03	0.01	1.00	-0.22
Profit	0.01	-0.03	0.48	0.07	-0.22	1.00

Number of outliers detected in each numeric column (IQR method):

```
{'Row ID': 9994, 'Postal Code': 9994, 'Sales': 8827, 'Quantity': 9824, 'Discount': 9072, 'Profit': 8717}
```
