```
#Importing libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from datetime import datetime
```

```
#Load dataset
df = pd.read_csv('/content/Amazon Sale Report.csv')
```

```
# Explore data
print(df.head())
```

```
print(df.info())
```

```
print(df.describe())
```

```
#Product Analysis

#Top Selling Product
top_products =
df.groupby('Category')['Amount'].sum().sort_values(ascending=False).head(10)
print(top_products)
```

```
top_size = df.groupby('Size')['Amount'].sum()
print(top_size)
```

```
top_quantity = df.groupby('Qty')['Amount'].sum().sort_values(ascending=False).head(10)
print(top_quantity)
```

```
# Visualize the top selling products
plt.figure(figsize=(7,4))
sns.barplot(x=top_products.index, y=top_products.values)
plt.title('Top Selling Products')
plt.xlabel('Category')
plt.ylabel('Sales')
plt.show()

# Visualize the top selling sizes
plt.figure(figsize=(7,4))
sns.lineplot(x=top_size.index, y=top_size.values)
plt.title('Top Selling size')
plt.xlabel('Size')
plt.ylabel('Sales')
plt.show()
```

```
# Visualize the top selling Quantity
plt.figure(figsize=(7,4))
sns.barplot(x=top_quantity.index, y=top_quantity.values)
plt.title('Top Selling Quantities')
plt.ylabel('Sales')
plt.xlabel('Quantity')
plt.show()
```

```
#Fulfillment Analysis to average sales
ana = df.groupby('Fulfilment')['Amount'].mean()
print(ana)
```

```
# Sales by Region
region_sales = df.groupby('ship-
state')['Amount'].sum().sort_values(ascending=False).head(15)
print(region_sales)
```

```
# Visualize the sales by region
plt.figure(figsize=(7,4))
sns.barplot(y=region_sales.index, x=region_sales.values)
plt.title('Sales by Region')
plt.xlabel('Sales')
plt.ylabel('State')
plt.show()
```

```
#Sales over view
avg_order_value = df['Amount'].mean()
print(f'Average Order Value: {avg_order_value:.2f} INR')
```

```
best_selling_product_by_region = df.groupby(['ship-state',
'Category'])['Amount'].sum().sort_values(ascending=False).head(10)
print(best_selling_product_by_region)
```

```
#Visualize the best selling product by region
plt.figure(figsize=(7,6))
sns.barplot(y=best_selling_product_by_region.index.get_level_values('ship-state'),
x=best_selling_product_by_region.values)
plt.title('Best Selling Product by Region')
plt.xlabel('Sales')
plt.ylabel('State')
plt.show()
```

```
#Insights and Recommendations based on analysis

print(" Insights and Recommendations based on analysis:")
```

```
print("1.Recognize the needs, tastes, and purchasing patterns of your target market to customize your offering.")
print("2.Identify the best-performing sales channels.")
print("3.Consider market demand, financial objectives, and product value when determining pricing and discounting strategies.")
print("4.Engage clients through a variety of channels to ensure a smooth experience.")
print("5.To increase customer happiness, provide individualized care and top-notch post-purchase assistance.")
```