Discount, Region & Payment Method Analysis

1. Impact of Discount on Revenue and Quantity

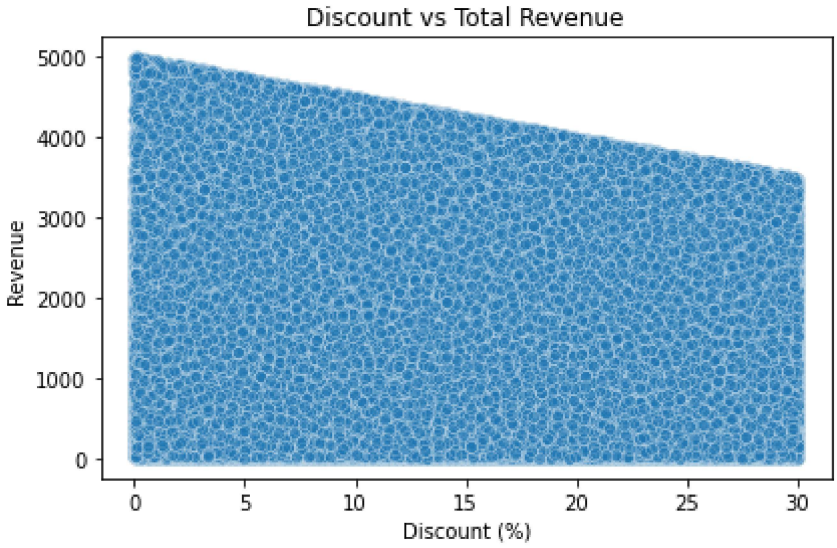
In [91]:
```
correlation = df[['Discount (%)', 'Total Revenue', 'Quantity']].corr()
print(correlation)
```

```
                Discount (%)  Total Revenue  Quantity
Discount (%)        1.000000      -0.126697 -0.000752
Total Revenue      -0.126697       1.000000  0.589763
Quantity           -0.000752       0.589763  1.000000
```

Scatter Plot: Discount vs Revenue

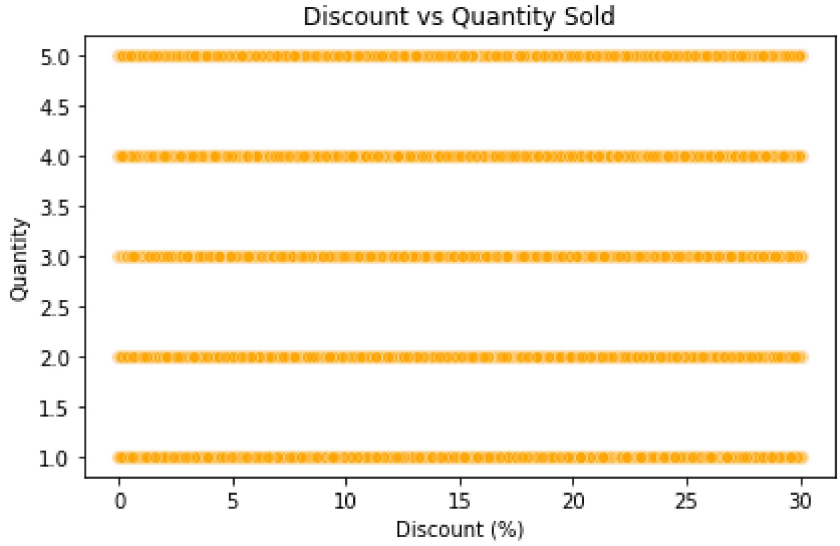
In [93]:
```
import seaborn as sns
import matplotlib.pyplot as plt

sns.scatterplot(x='Discount (%)', y='Total Revenue', data=df, alpha=0.5
plt.title('Discount vs Total Revenue')
plt.xlabel('Discount (%)')
plt.ylabel('Revenue')
plt.tight_layout()
plt.show()
```



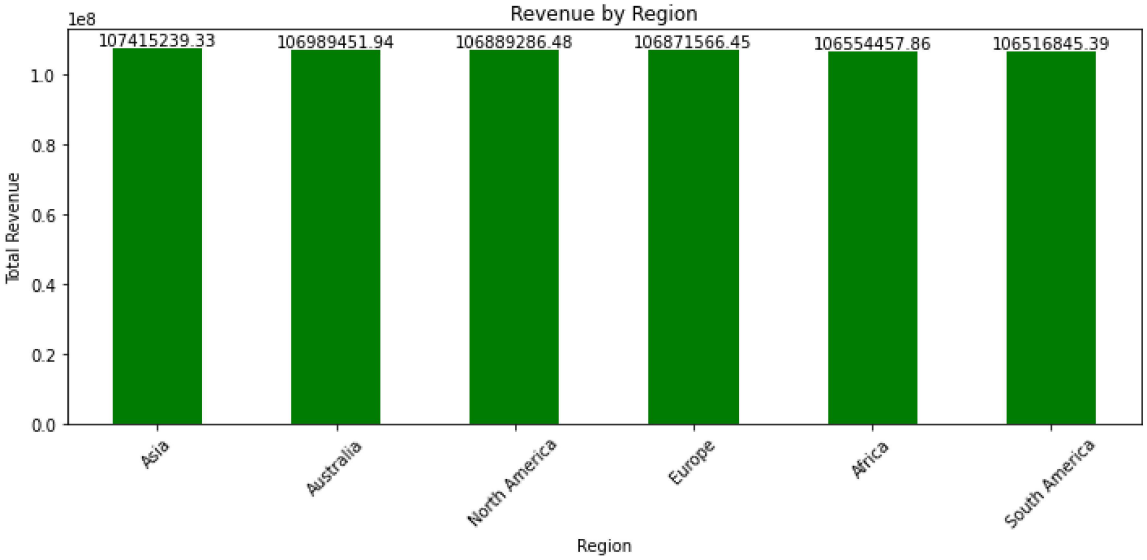
Scatter Plot: Discount vs Quantity

In [97]:
```
sns.scatterplot(x='Discount (%)', y='Quantity', data=df, alpha=0.5, col
plt.title('Discount vs Quantity Sold')
plt.xlabel('Discount (%)')
plt.ylabel('Quantity')
plt.tight_layout()
plt.show()
```



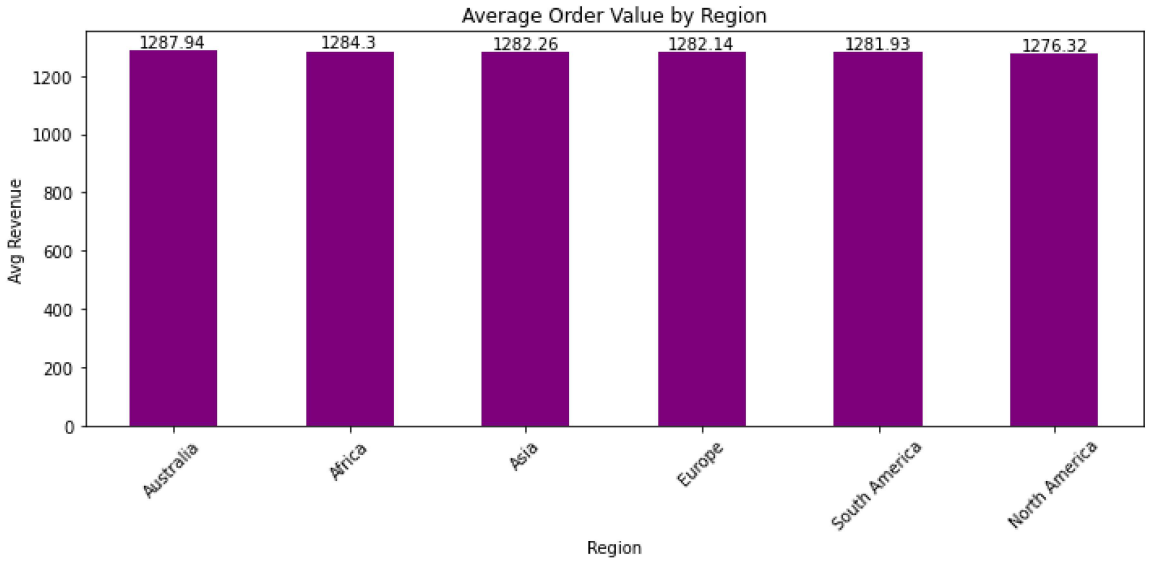
2. Revenue Distribution by Region

In [112]:
```
region_revenue = df.groupby('Region')['Total Revenue'].sum().sort_value
region_revenue.plot(kind='bar', title='Revenue by Region', figsize=(10,
plt.ylabel('Total Revenue')
plt.xticks(rotation=45)
for i, v in enumerate(region_revenue):
    plt.text(i, v, str(round(v, 2)), color='black', ha='center', va='bo
plt.tight_layout()
plt.show()
```



Average Revenue per Orer by Region

In [114]:
```
avg_revenue_region = df.groupby('Region')['Total Revenue'].mean().sort_
avg_revenue_region.plot(kind='bar', title='Average Order Value by Regio
plt.ylabel('Avg Revenue')
plt.xlabel('Region')
plt.xticks(rotation=45)
for i, v in enumerate(avg_revenue_region):
    plt.text(i, v, str(round(v, 2)), color='black', ha='center', va='bo
plt.tight_layout()
plt.show()
```

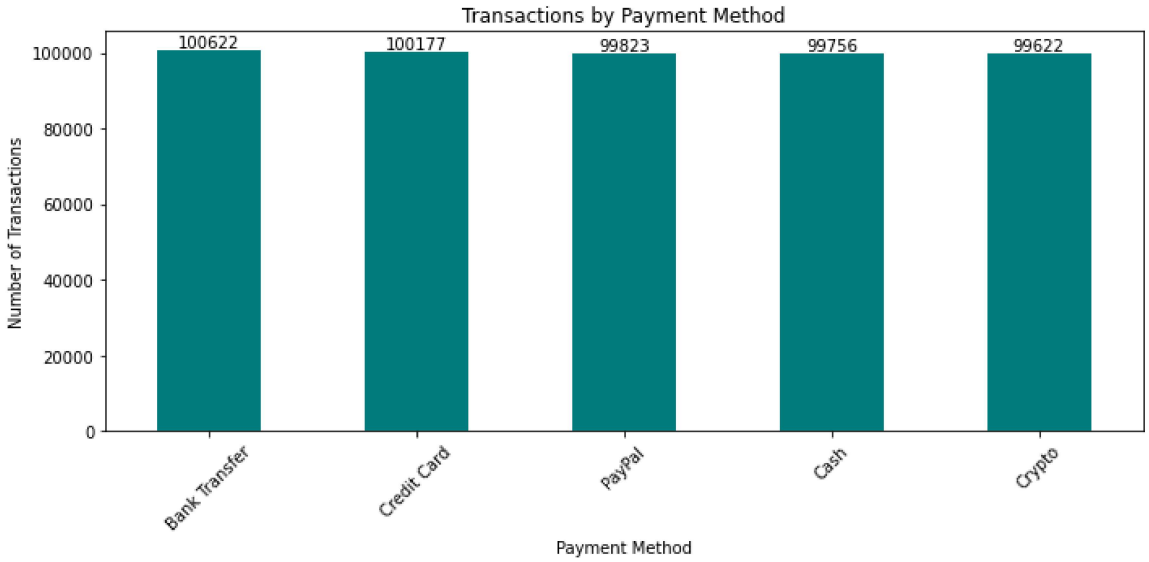


3. Payment Method Analysis

In [113]:

```
payment_summary = df['Payment Method'].value_counts()

payment_summary.plot(kind='bar', title='Transactions by Payment Method'
plt.ylabel('Number of Transactions')
plt.xlabel('Payment Method')
plt.xticks(rotation=45)
for i, v in enumerate(payment_summary):
    plt.text(i, v, str(round(v, 2)), color='black', ha='center', va='bo
plt.tight_layout()
plt.show()
```



Revenue by Payment Method

In [115]:

```
revenue_by_payment = df.groupby('Payment Method')['Total Revenue'].sum(

revenue_by_payment.plot(kind='bar', title='Revenue by Payment Method',
plt.ylabel('Totla Revenue')
plt.xlabel('Payment Method')
plt.xticks(rotation=45)
for i, v in enumerate(revenue_by_payment):
    plt.text(i, v, str(round(v, 2)), color='black', ha='center', va='bo
plt.tight_layout()
plt.show()
```