In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

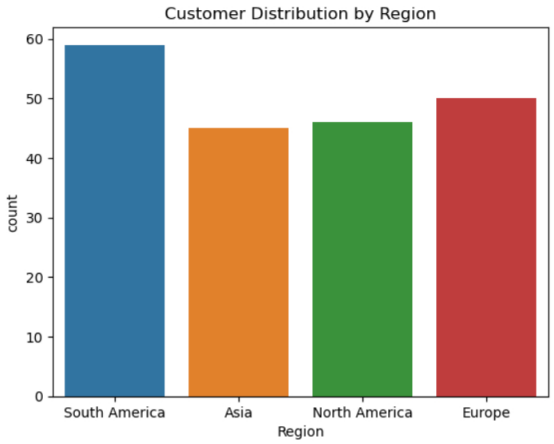
In [2]:
```
customers = pd.read_csv('Customers.csv')
products = pd.read_csv('Products.csv')
transactions = pd.read_csv('Transactions.csv')
```

In [3]:
```
customers['SignupDate'] = pd.to_datetime(customers['SignupDate'])
transactions['TransactionDate'] = pd.to_datetime(transactions['TransactionDate'])
```

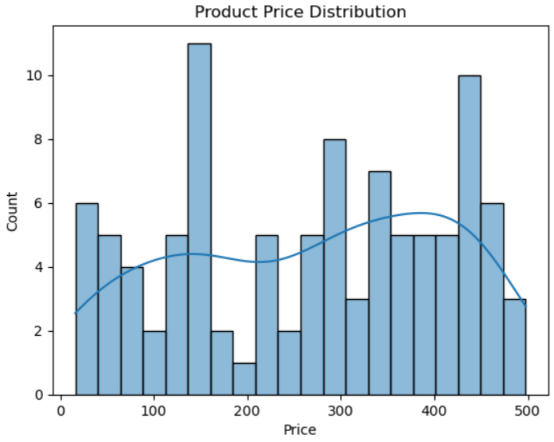
In [4]:
```
print(customers.isnull().sum())
print(products.isnull().sum())
print(transactions.isnull().sum())
```

```
CustomerID      0
CustomerName    0
Region          0
SignupDate      0
dtype: int64
ProductID      0
ProductName    0
Category       0
Price          0
dtype: int64
TransactionID      0
CustomerID         0
ProductID          0
TransactionDate    0
Quantity           0
TotalValue         0
Price              0
dtype: int64
```

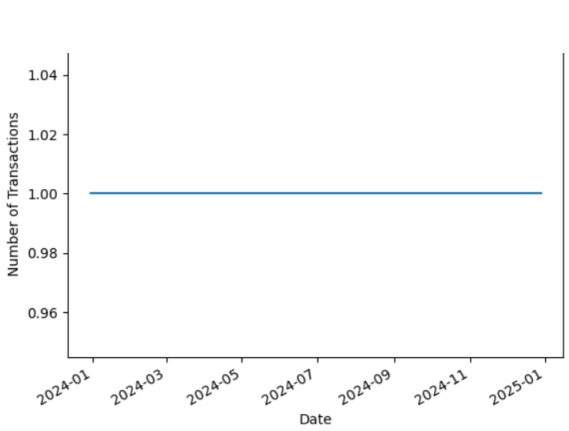
In [5]:
```
sns.countplot(data=customers, x='Region')
plt.title('Customer Distribution by Region')
plt.show()
```



In [6]:
```
sns.histplot(data=products, x='Price', bins=20, kde=True)
plt.title('Product Price Distribution')
plt.show()
```



In [8]:
```
transactions.groupby('TransactionDate').size().plot(kind='line')
plt.title('Transaction Volume Over Time')
plt.xlabel('Date')
plt.ylabel('Number of Transactions')
plt.show()
```


1.04
1.02
1.00
0.98
0.96
Number of Transactions
2024-01
2024-03
2024-05
2024-07
2024-09
2024-11
2025-01
Date

In [ ]: