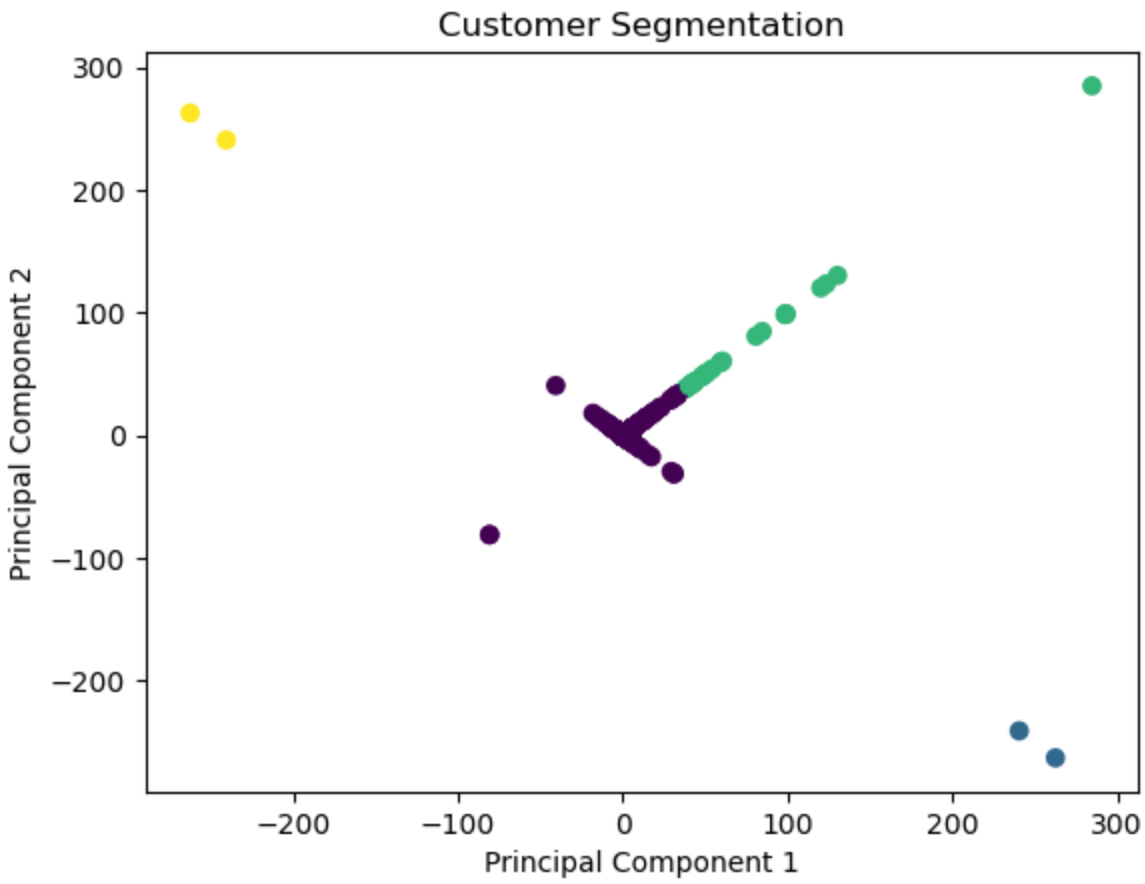
In [4]:

```
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.preprocessing import StandardScaler
from sklearn.cluster import KMeans
from sklearn.decomposition import PCA

df=pd.read_csv("OnlineRetail.csv",encoding='latin-1')



features = ['Quantity', 'UnitPrice']


scaler = StandardScaler()
df_scaled = scaler.fit_transform(df[features])


kmeans = KMeans(n_clusters=4, random_state=42)
customer_segments = kmeans.fit_predict(df_scaled)


pca = PCA(n_components=2)
components = pca.fit_transform(df_scaled)


plt.scatter(components[:, 0], components[:, 1], c=customer_segments)
plt.xlabel('Principal Component 1')
plt.ylabel('Principal Component 2')
plt.title('Customer Segmentation')
plt.show()
```

```
C:\Users\DELL\anaconda3\lib\site-packages\sklearn\cluster\_kmeans.py:870: FutureWarning:
The default value of `n_init` will change from 10 to 'auto' in 1.4. Set the value of `n_
init` explicitly to suppress the warning
  warnings.warn(
```



In [ ]: