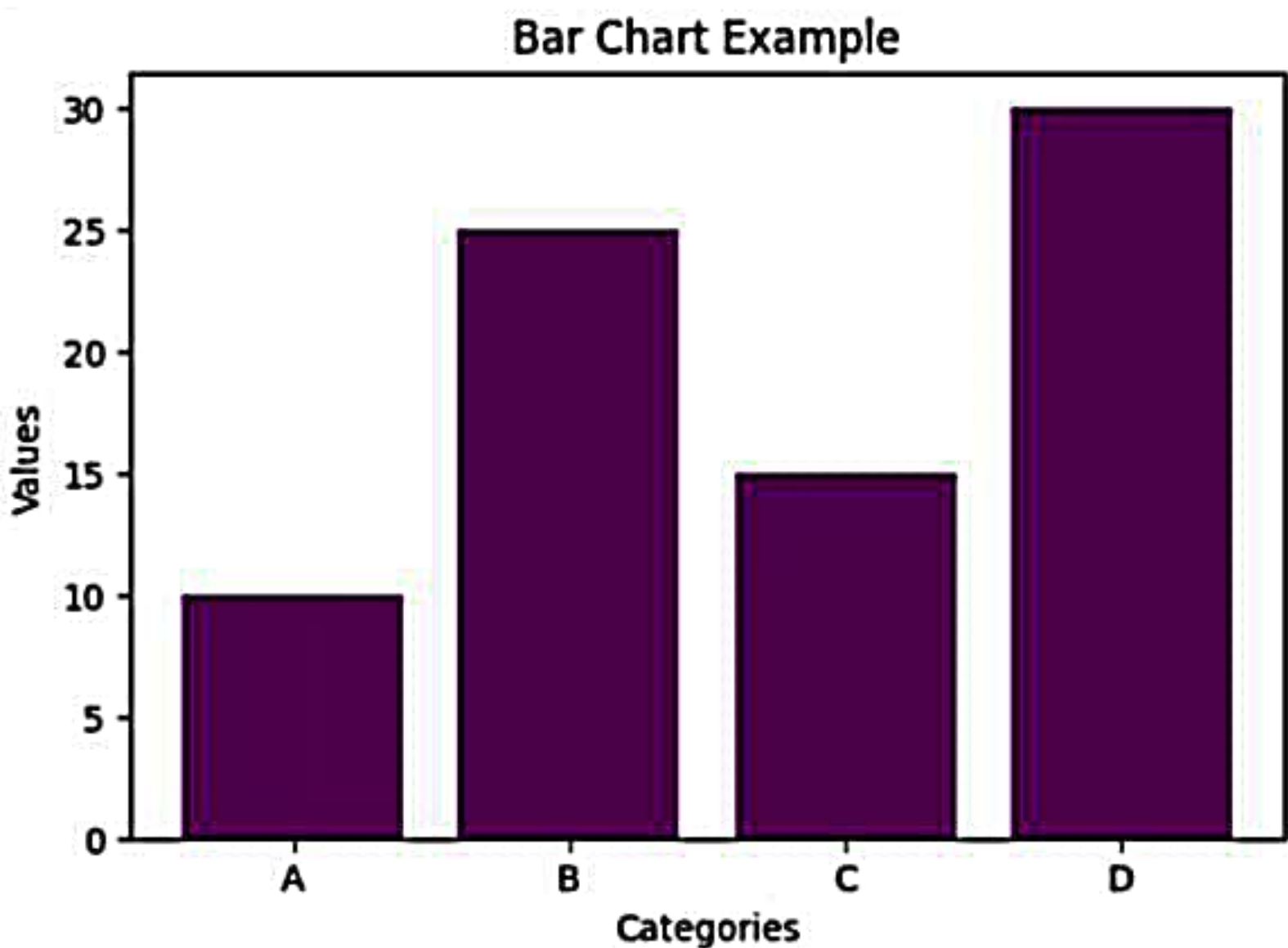


```
categories = ['A', 'B', 'C', 'D']  
values = [10, 25, 15, 30]  
  
plt.figure(figsize=(6, 4))  
plt.bar(categories, values, color='purple')  
plt.xlabel("Categories")  
plt.ylabel("Values")  
plt.title("Bar Chart Example")  
plt.show()
```



```
data = np.random.randn(1000)
```

```
plt.figure(figsize=(7, 5))
```

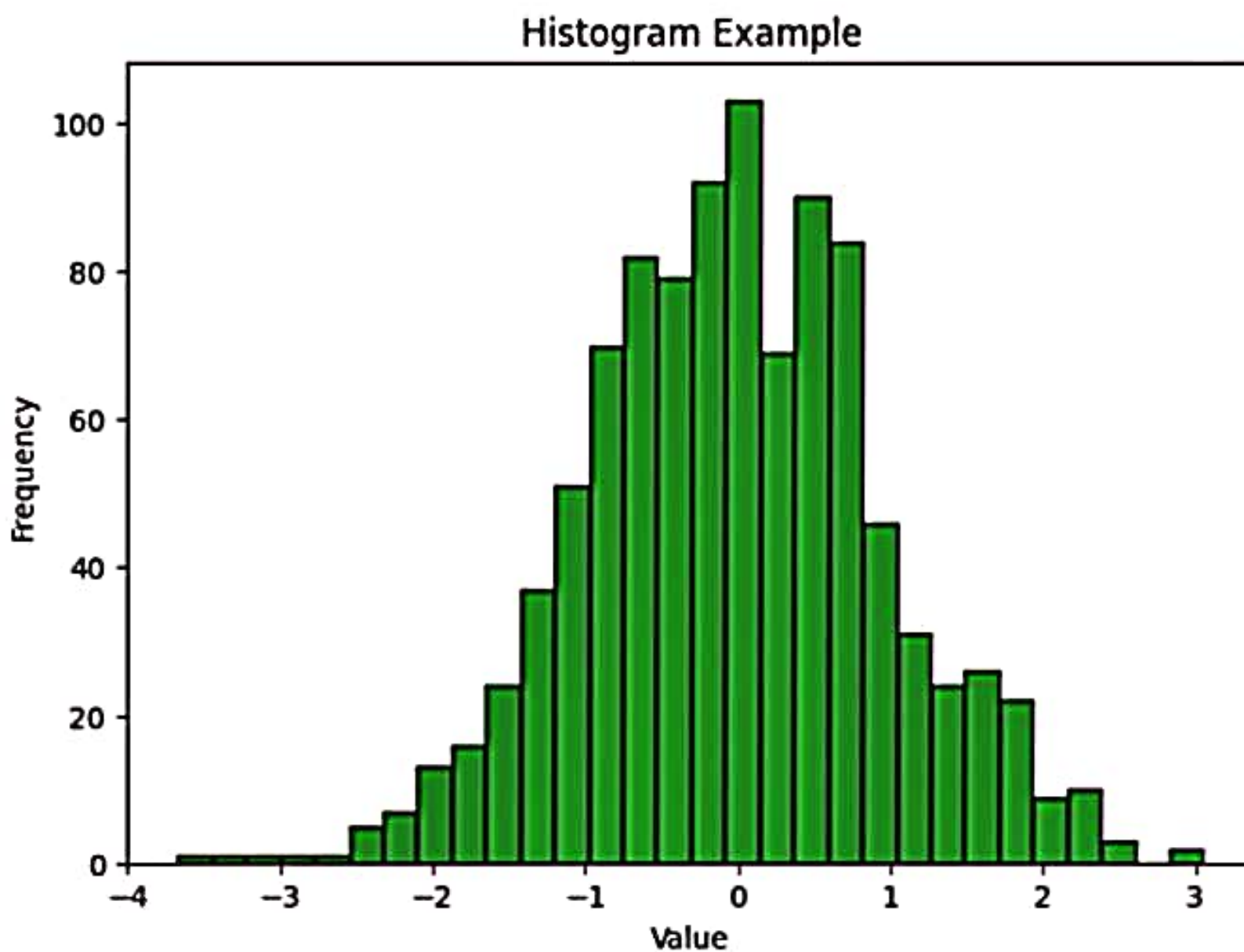
```
plt.hist(data, bins=30, color='green', edgecolor='black', alpha=0.7)
```

```
plt.xlabel("Value")
```

```
plt.ylabel("Frequency")
```

```
plt.title("Histogram Example")
```

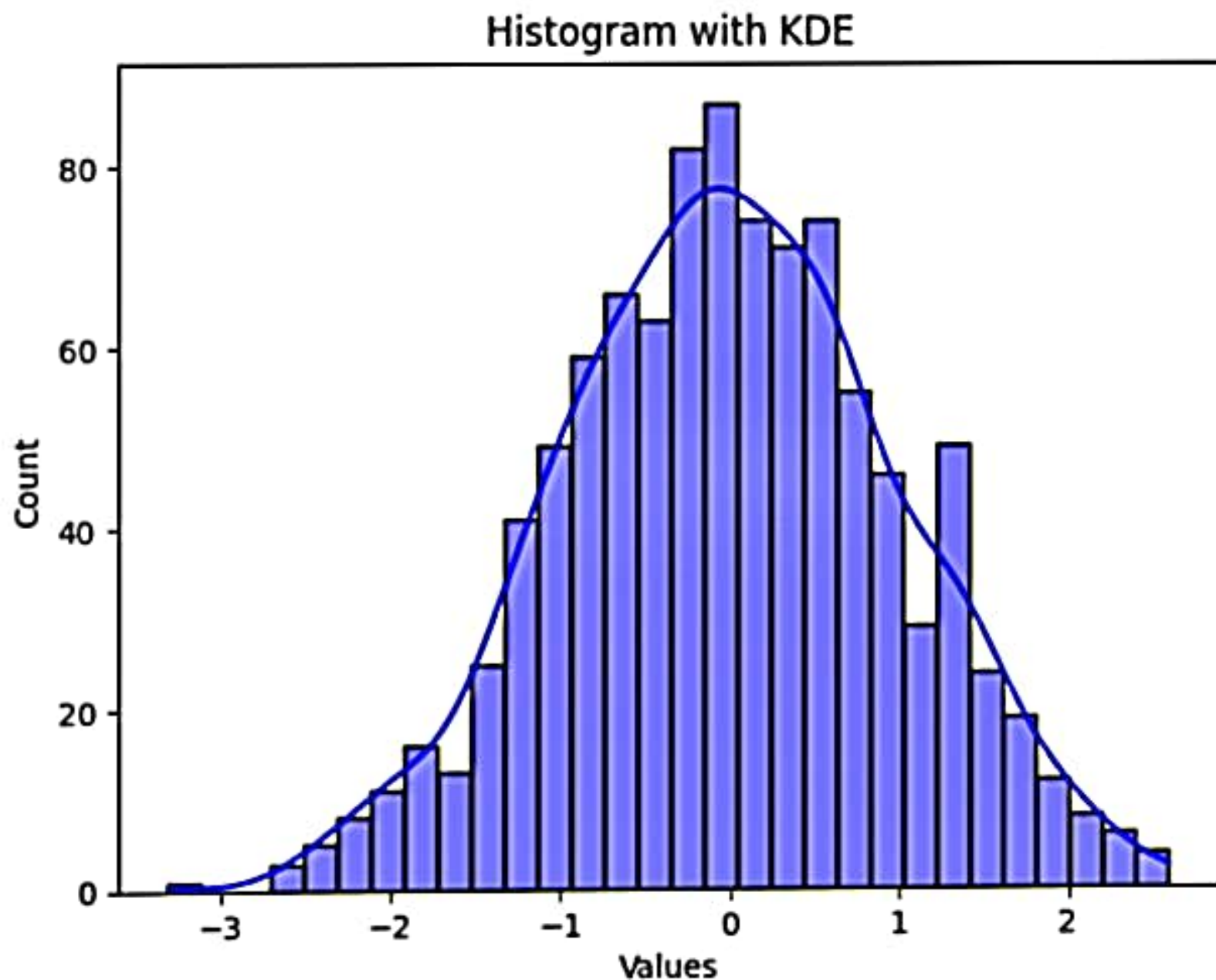
```
plt.show()
```



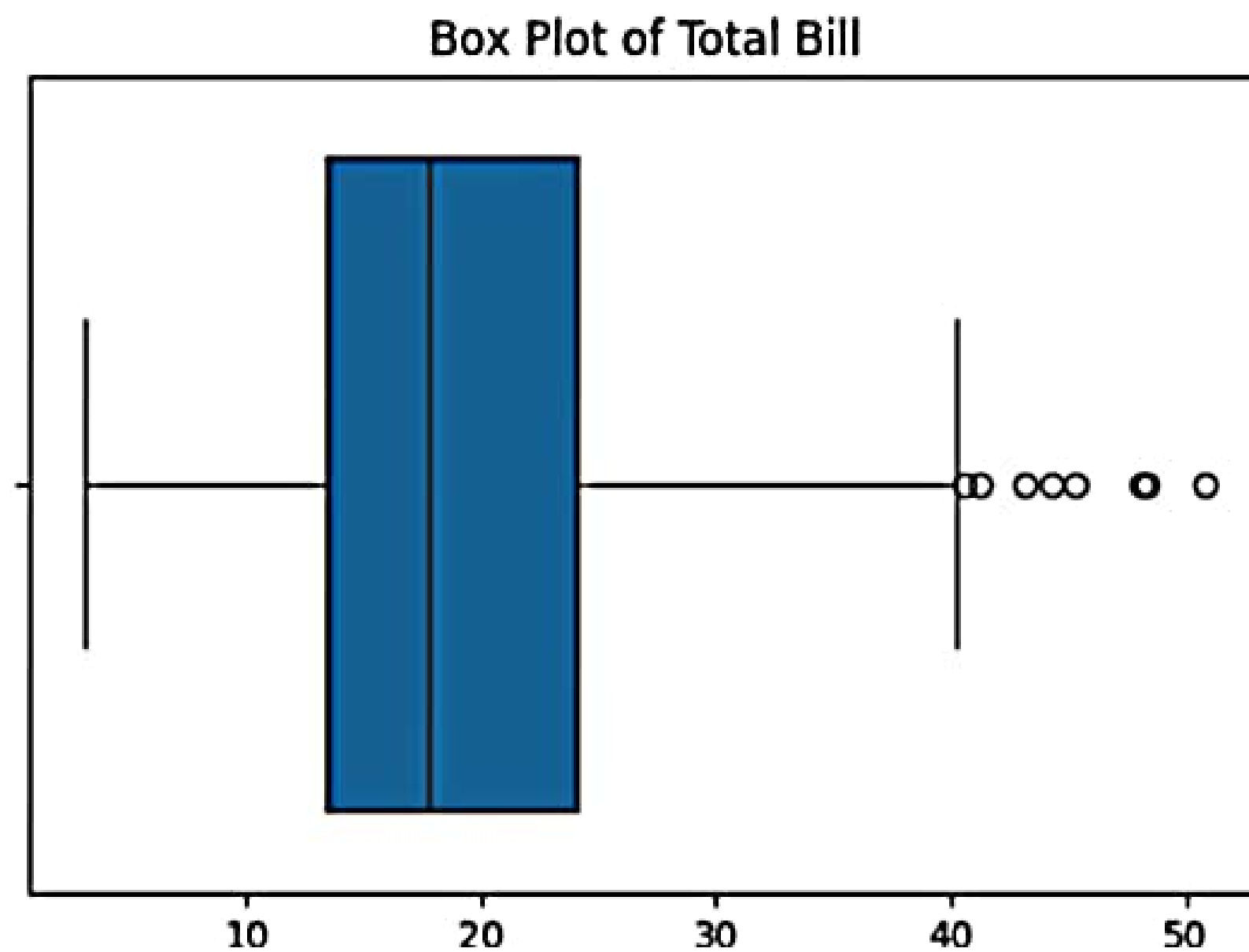
```
import seaborn as sns
import pandas as pd

# Creating sample data
data = np.random.randn(1000)
df = pd.DataFrame(data, columns=['Values'])

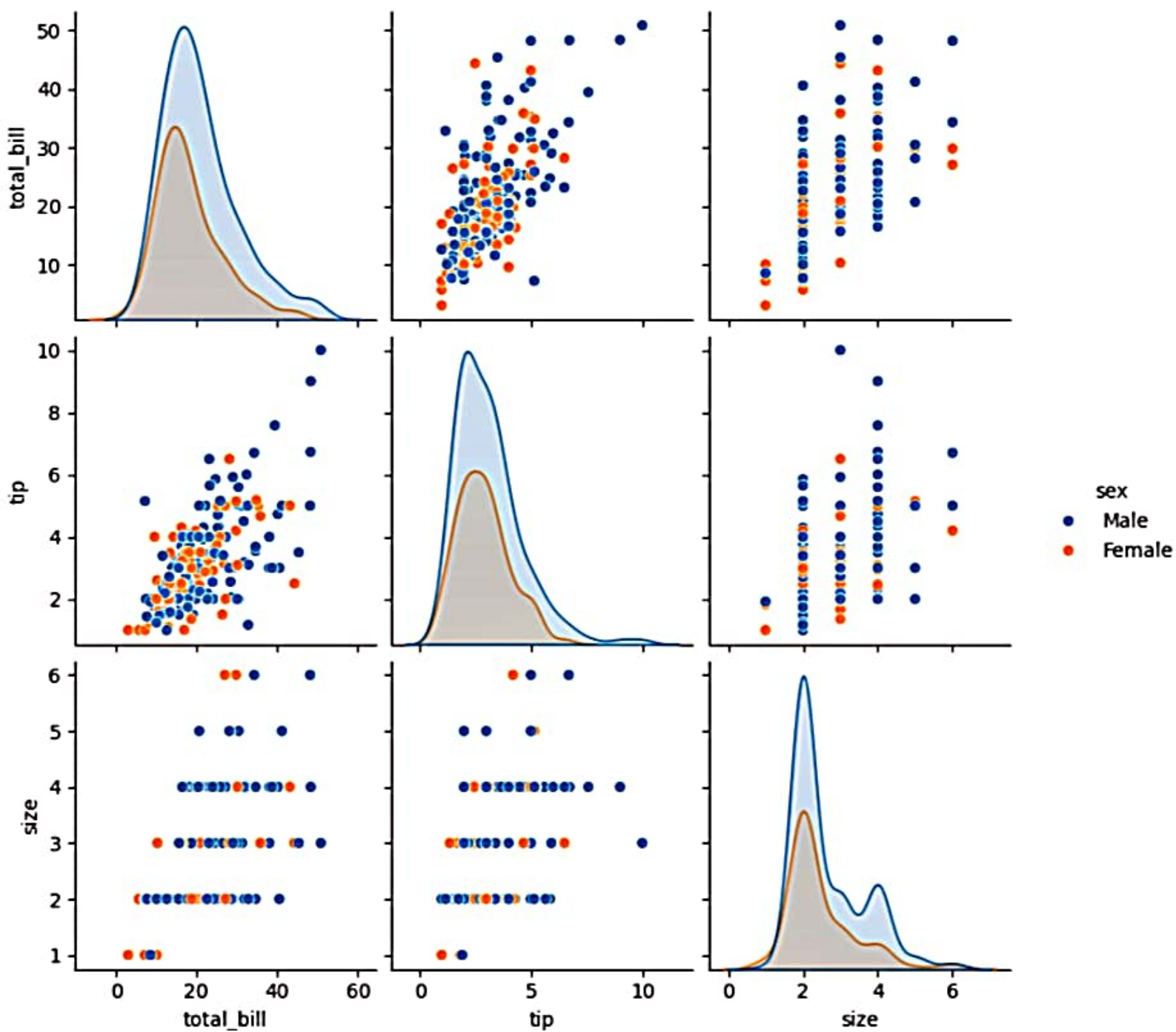
# Plot
sns.histplot(df['Values'], bins=30, kde=True, color='blue')
plt.title("Histogram with KDE")
plt.show()
```



```
tips = sns.load_dataset('tips')  
  
plt.figure(figsize=(6, 4))  
sns.boxplot(x=tips['total_bill'])  
plt.title("Box Plot of Total Bill")  
plt.show()
```



```
sns.pairplot(tips, hue='sex')  
plt.show()
```




```

# Convert the 'sex' column to numerical representation using Label Encoding
from sklearn.preprocessing import LabelEncoder

encoder = LabelEncoder()
tips['sex'] = encoder.fit_transform(tips['sex'])

# Convert the 'smoker' column to numerical representation using Label Encoding
tips['smoker'] = encoder.fit_transform(tips['smoker'])

# Convert the 'day' column to numerical representation using Label Encoding
tips['day'] = encoder.fit_transform(tips['day'])

# Convert the 'time' column to numerical representation using Label Encoding
tips['time'] = encoder.fit_transform(tips['time'])

# Now you can calculate the correlation matrix
corr_matrix = tips.corr()

plt.figure(figsize=(7, 5))
sns.heatmap(corr_matrix, annot=True, cmap='coolwarm', fmt=".2f")
plt.title("Correlation Heatmap")
plt.show()

```

