

0. Imports and read in the data.

Python code:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

df = pd.read_csv('Telco-Customer-Churn.csv')
```

1. Check whether the data set has NaN values per feature column.

Python code:

```
df.isnull().sum()
```

Output:

customerID	0
gender	0
SeniorCitizen	0
Partner	0
Dependents	0
tenure	0
PhoneService	0
MultipleLines	0
InternetService	0
OnlineSecurity	0
OnlineBackup	0
DeviceProtection	0
TechSupport	0
StreamingTV	0
StreamingMovies	0
Contract	0
PaperlessBilling	0
PaymentMethod	0
MonthlyCharges	0
TotalCharges	0
Churn	0

dtype: int64

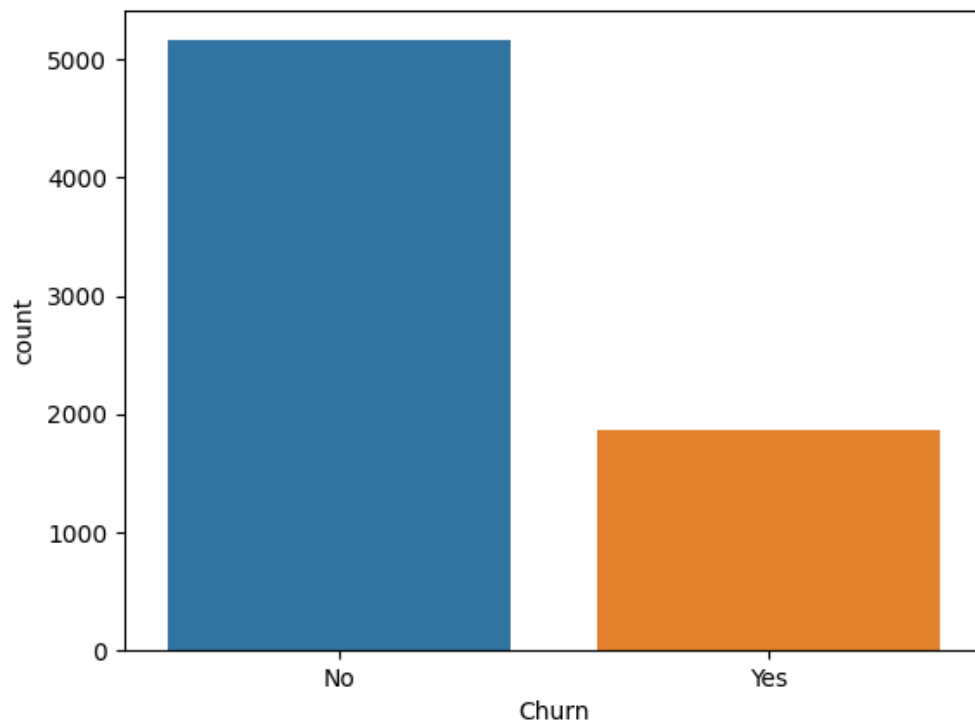
- There are no missing data through the entire data set.

2. Check if the class labels are imbalanced by visualization.

Python code:

```
sns.countplot(data=df, x='Churn')
plt.show()
```

Output:



The class labels are slightly imbalanced, but it's not extreme.

3. Visualize the distribution of total charges between churn categories.

Python code:

```
sns.boxplot(data=df, x='Churn', y='TotalCharges')  
plt.title('Total charges distribution per churn category')  
plt.ylabel('Total Charges')  
plt.show()
```