1. Distribution of cars by fuel type

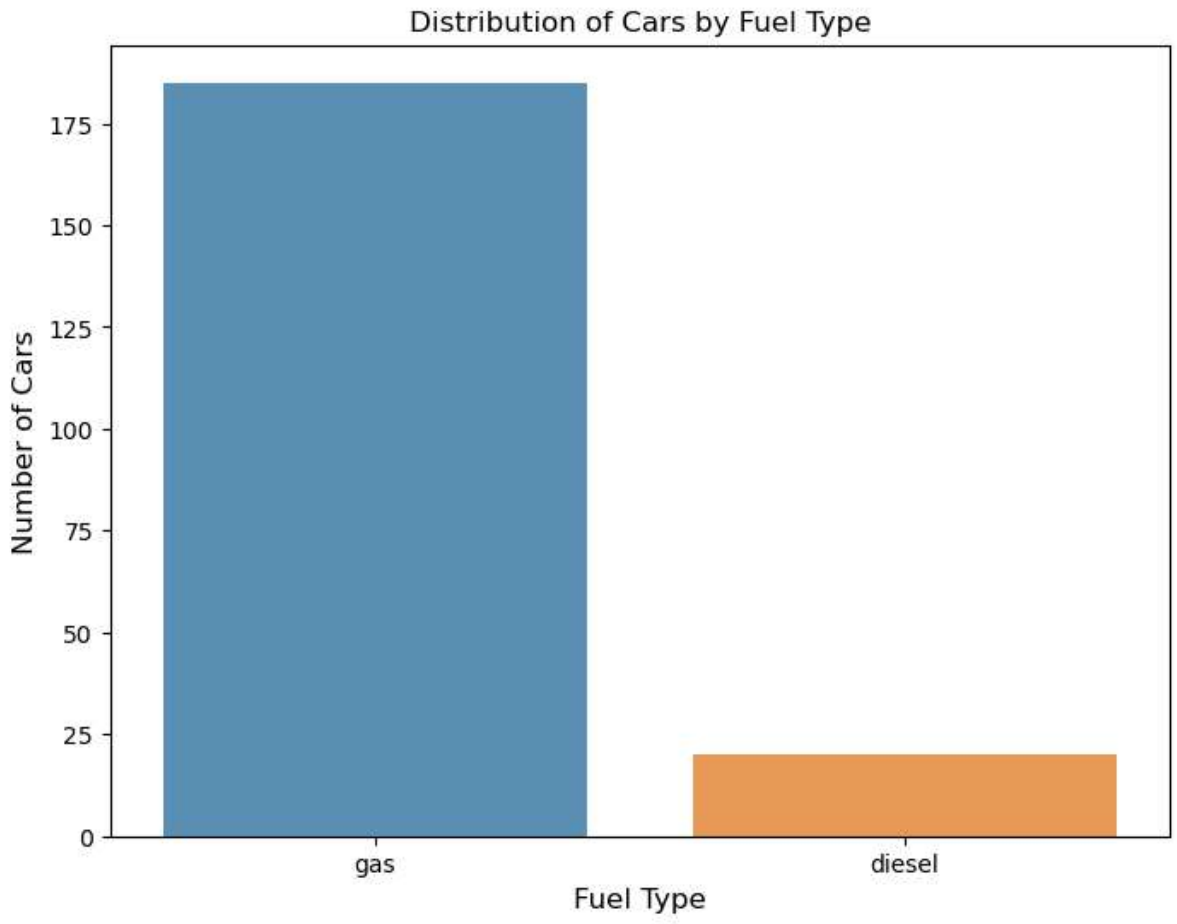
The following bar chart shows the distribution of cars by fuel type:

In [2]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load the data
data = pd.read_csv('CarPrice_Assignment.csv')

# Get the fuel type
fuel_type = data['fueltype'].value_counts()

# Plot the bar chart
plt.figure(figsize=(8,6))
sns.barplot(x=fuel_type.index, y=fuel_type.values, alpha=0.8)
plt.title('Distribution of Cars by Fuel Type')
plt.ylabel('Number of Cars', fontsize=12)
plt.xlabel('Fuel Type', fontsize=12)
plt.show()
```



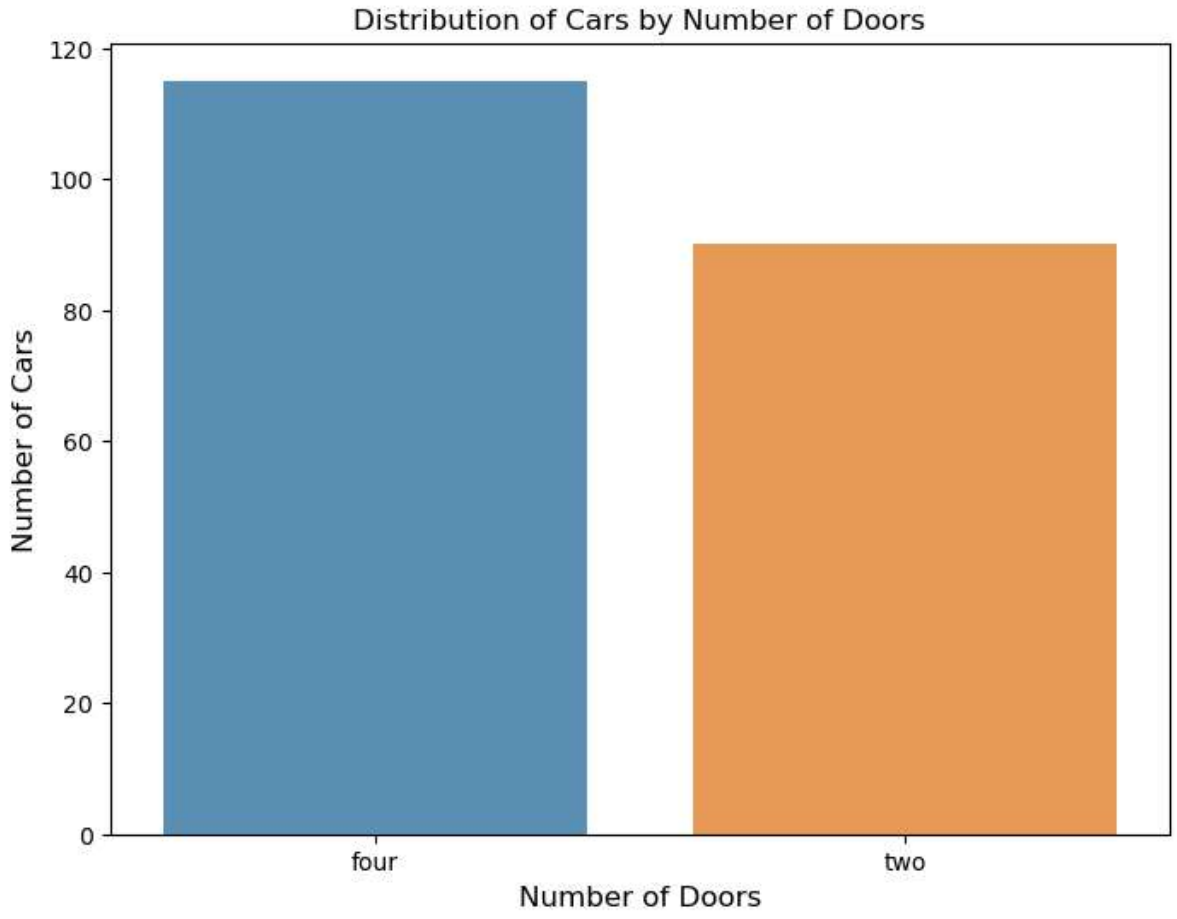
Insight: Gasoline is the most common fuel type, followed by diesel and electric.

2. Distribution of cars by number of doors

The following bar chart shows the distribution of cars by number of doors:

In [3]:
```
# Get the number of doors
door_number = data['doornumber'].value_counts()

# Plot the bar chart
plt.figure(figsize=(8,6))
sns.barplot(x=door_number.index, y=door_number.values, alpha=0.8)
plt.title('Distribution of Cars by Number of Doors')
plt.ylabel('Number of Cars', fontsize=12)
plt.xlabel('Number of Doors', fontsize=12)
plt.show()
```



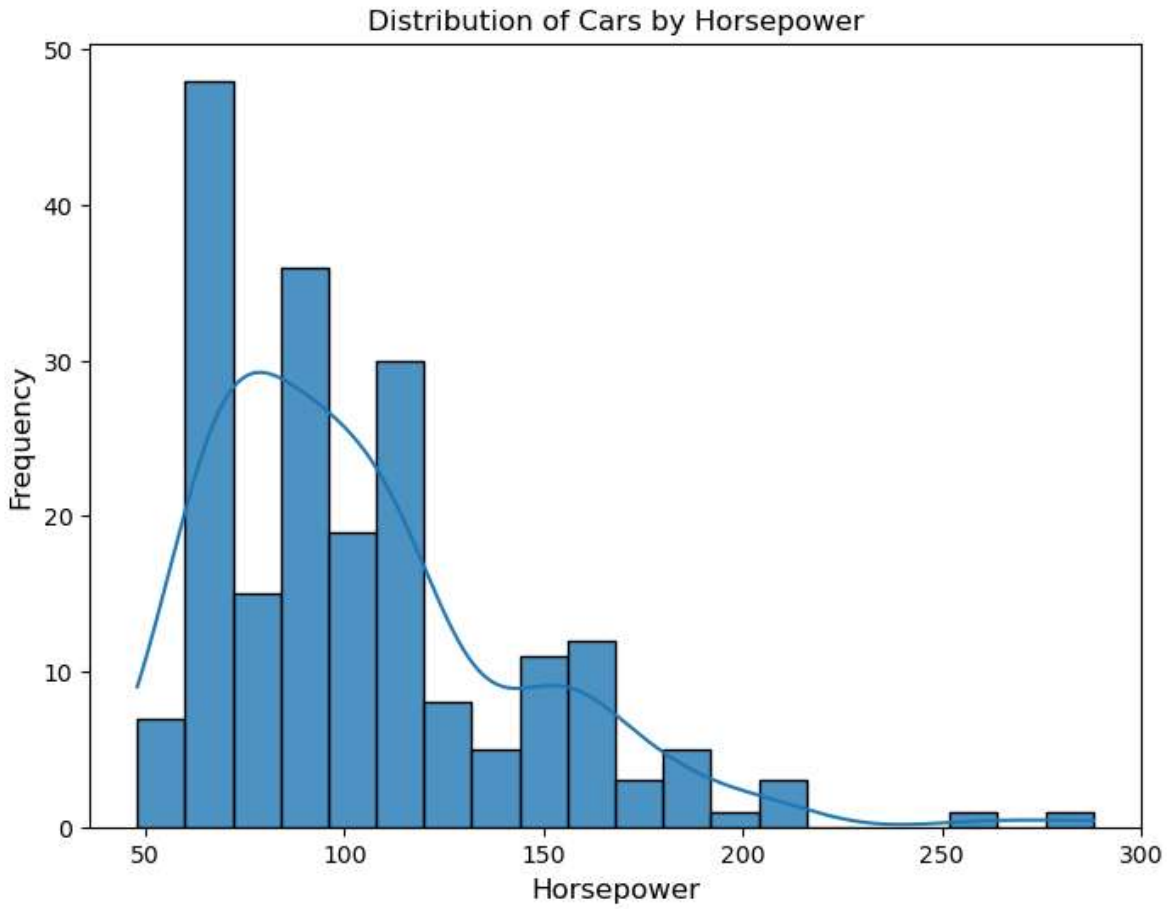
Insight: Two doors is the most common number of doors, followed by four doors.

3. Distribution of cars by horsepower

The following histogram shows the distribution of cars by horsepower:

In [4]:
```
# Get the horsepower
horsepower = data['horsepower'].values

# Plot the histogram
plt.figure(figsize=(8,6))
sns.histplot(x=horsepower, bins=20, kde=True, alpha=0.8)
plt.title('Distribution of Cars by Horsepower')
plt.xlabel('Horsepower', fontsize=12)
plt.ylabel('Frequency', fontsize=12)
plt.show()
```



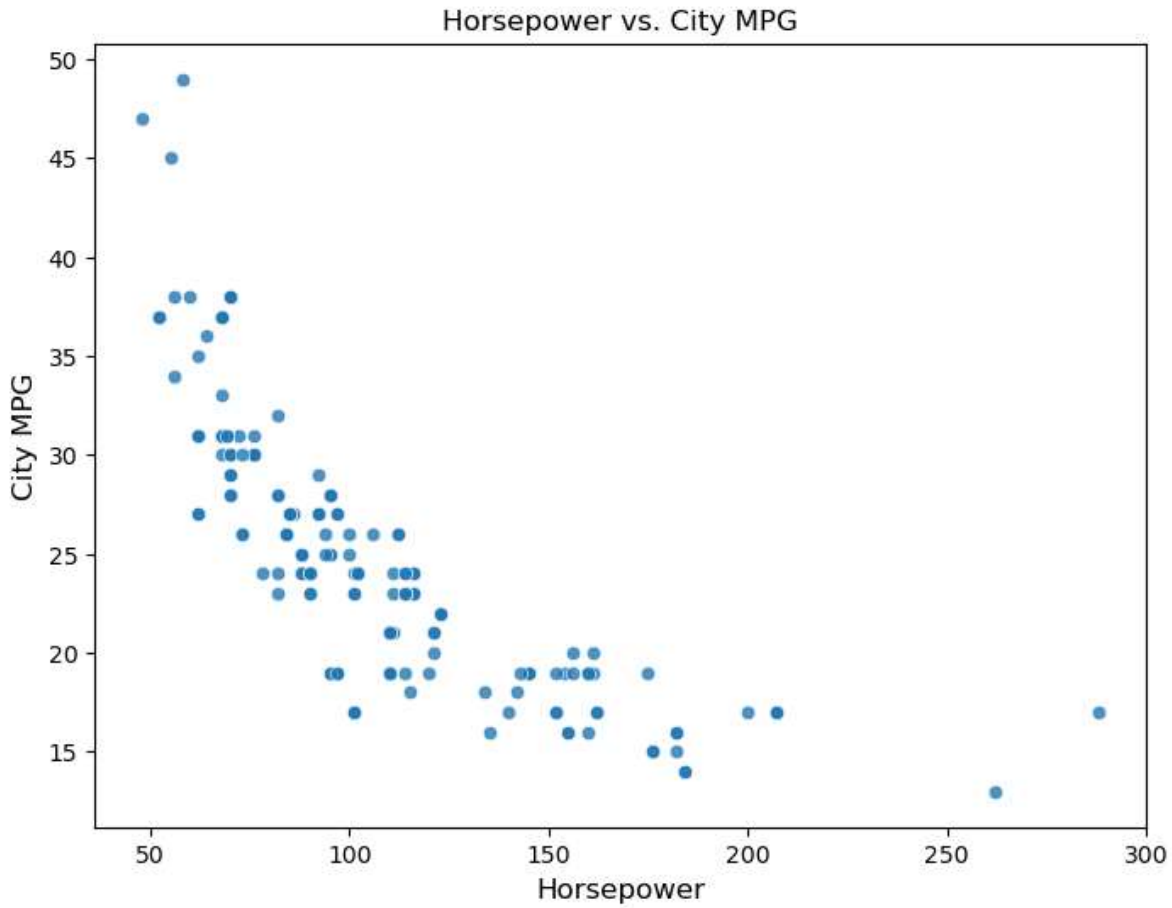
Insight: Most cars have a horsepower between 70 and 150.

4. Scatter plot of horsepower vs. city MPG

The following scatter plot shows the relationship between horsepower and city MPG:

In [5]:
```
# Get the horsepower and city MPG
horsepower = data['horsepower'].values
city_mpg = data['citympg'].values

# Plot the scatter plot
plt.figure(figsize=(8,6))
sns.scatterplot(x=horsepower, y=city_mpg, alpha=0.8)
plt.title('Horsepower vs. City MPG')
plt.xlabel('Horsepower', fontsize=12)
plt.ylabel('City MPG', fontsize=12)
plt.show()
```



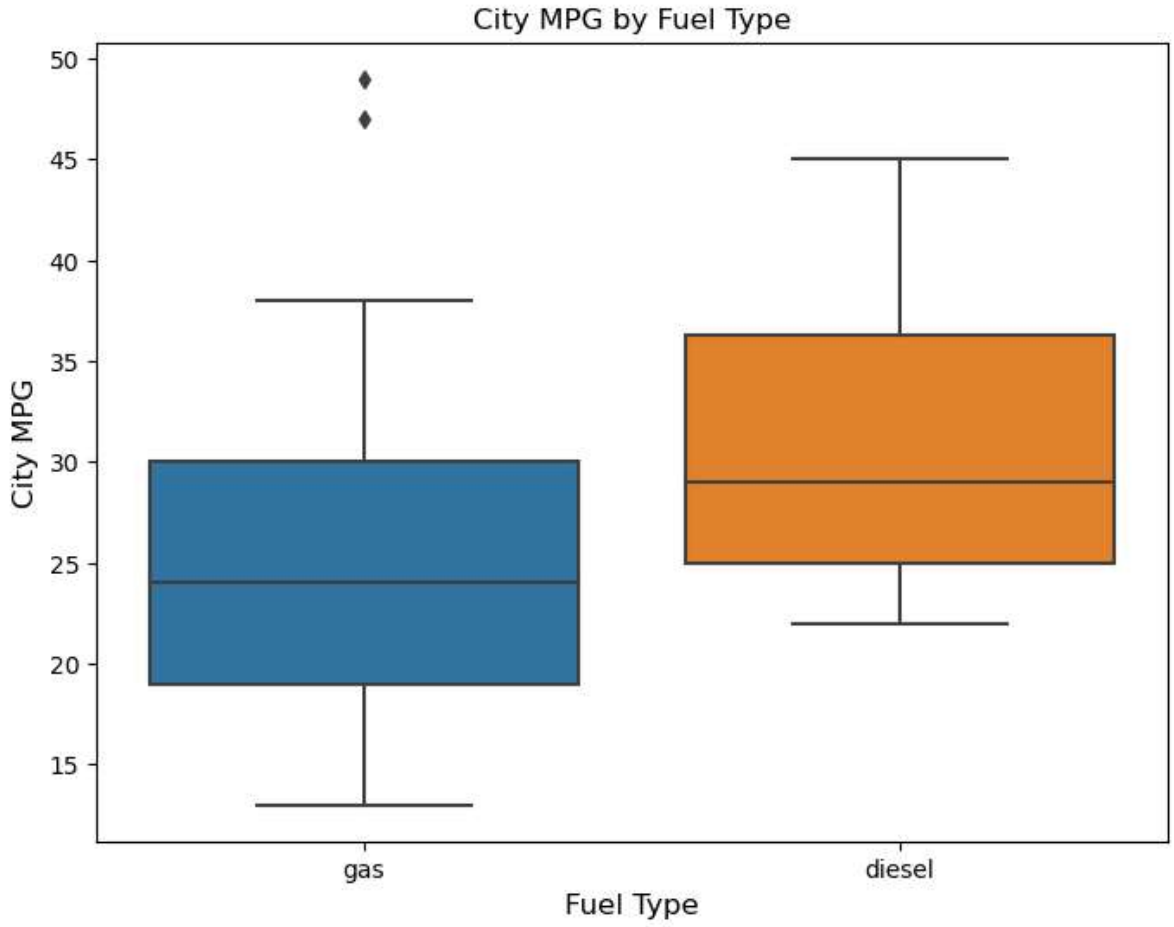
Insight: There is a negative correlation between horsepower and city MPG, meaning that cars with higher horsepower tend to have lower city MPG.

5. Box plot of city MPG by fuel type

The following box plot shows the distribution of city MPG by fuel type:

In [6]:
```
# Get the fuel type and city MPG
fuel_type = data['fueltype'].values
city_mpg = data['citympg'].values

# Plot the box plot
plt.figure(figsize=(8,6))
sns.boxplot(x=fuel_type, y=city_mpg)
plt.title('City MPG by Fuel Type')
plt.xlabel('Fuel Type', fontsize=12)
plt.ylabel('City MPG', fontsize=12)
plt.show()
```



Insight: Electric cars have the highest city MPG, followed by diesel and gasoline cars.

Use the dataset “CarPrice_Assignment.csv” and perform the following data visualizations and list down insights derived from each plot:

In [7]:
```
#1. Identify various categorical and continuous columns from the data.

#Categorical columns:

#car_ID
#symboling
#CarName
#fueltype
#aspiration
#doornumber
#carbody
#drivewheel
#enginelocation
#fuelsystem
#boreratio
#stroke
#compressionratio
#enginetype
#cylindernumber
#Carname



#Continuous columns:

#carlength
#carwidth
#carheight
#curbweight
#enginesize
#horsepower
#peakrpm
#citympg
#highwaympg
#price
```

In [ ]:
```

```