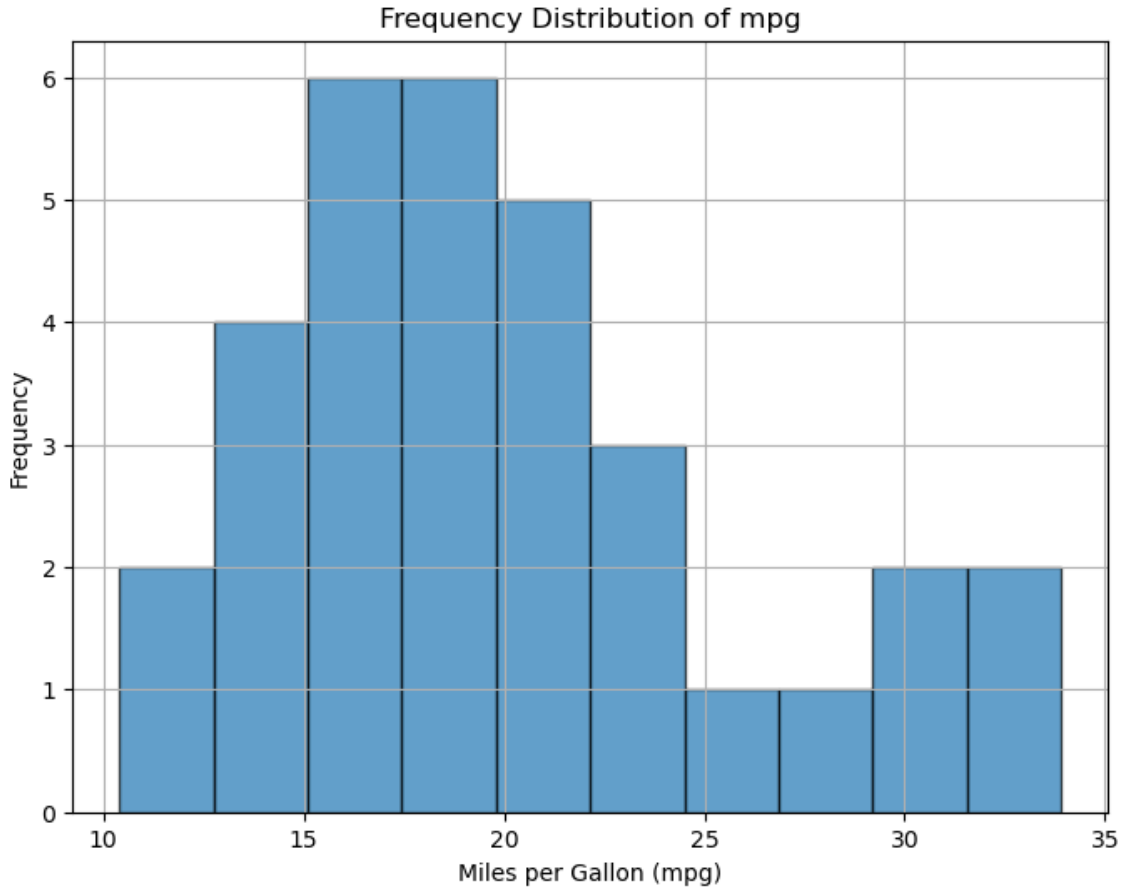
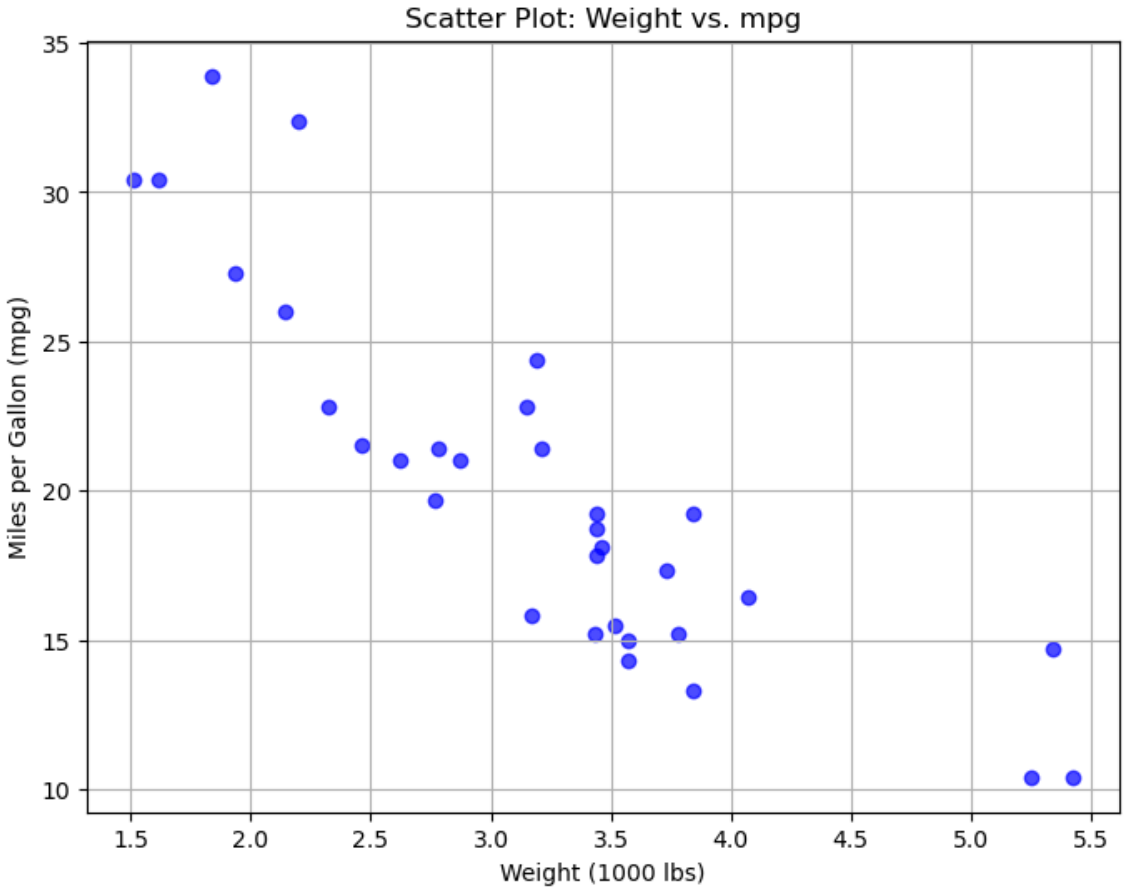
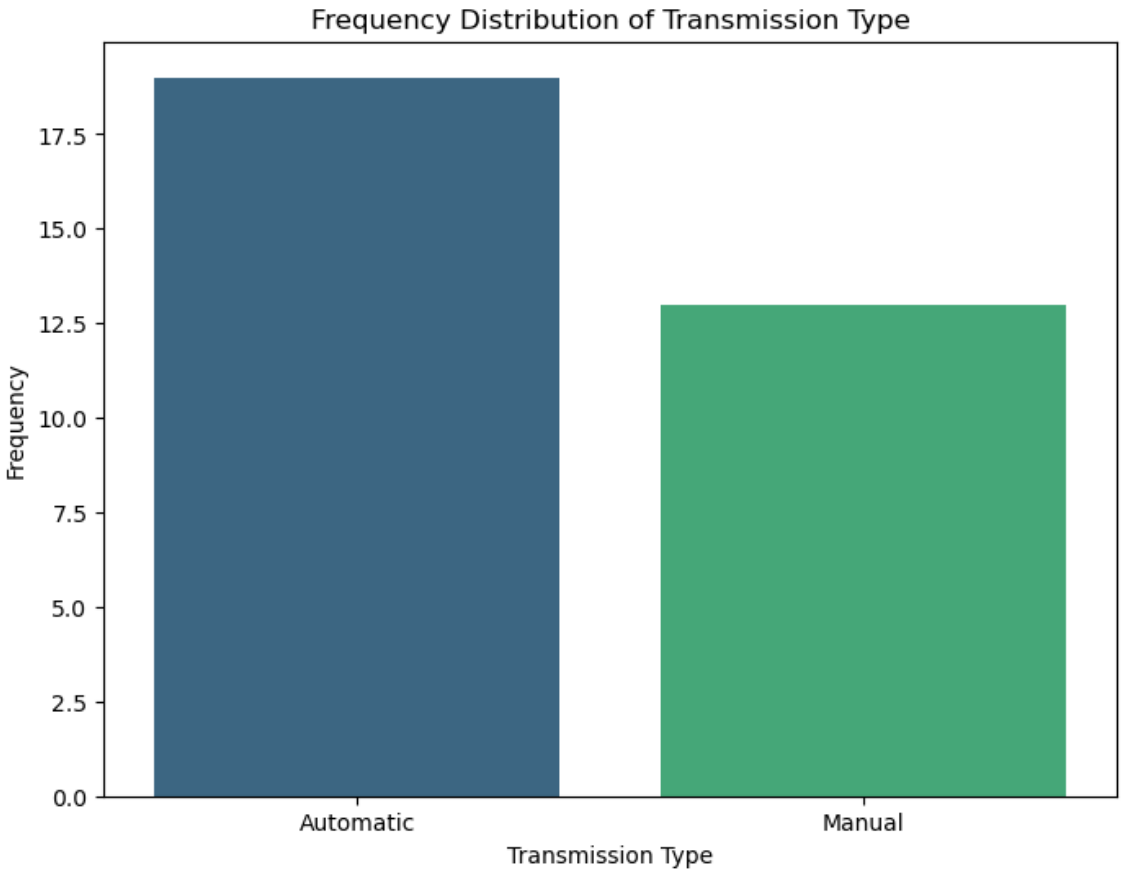
In [6]:

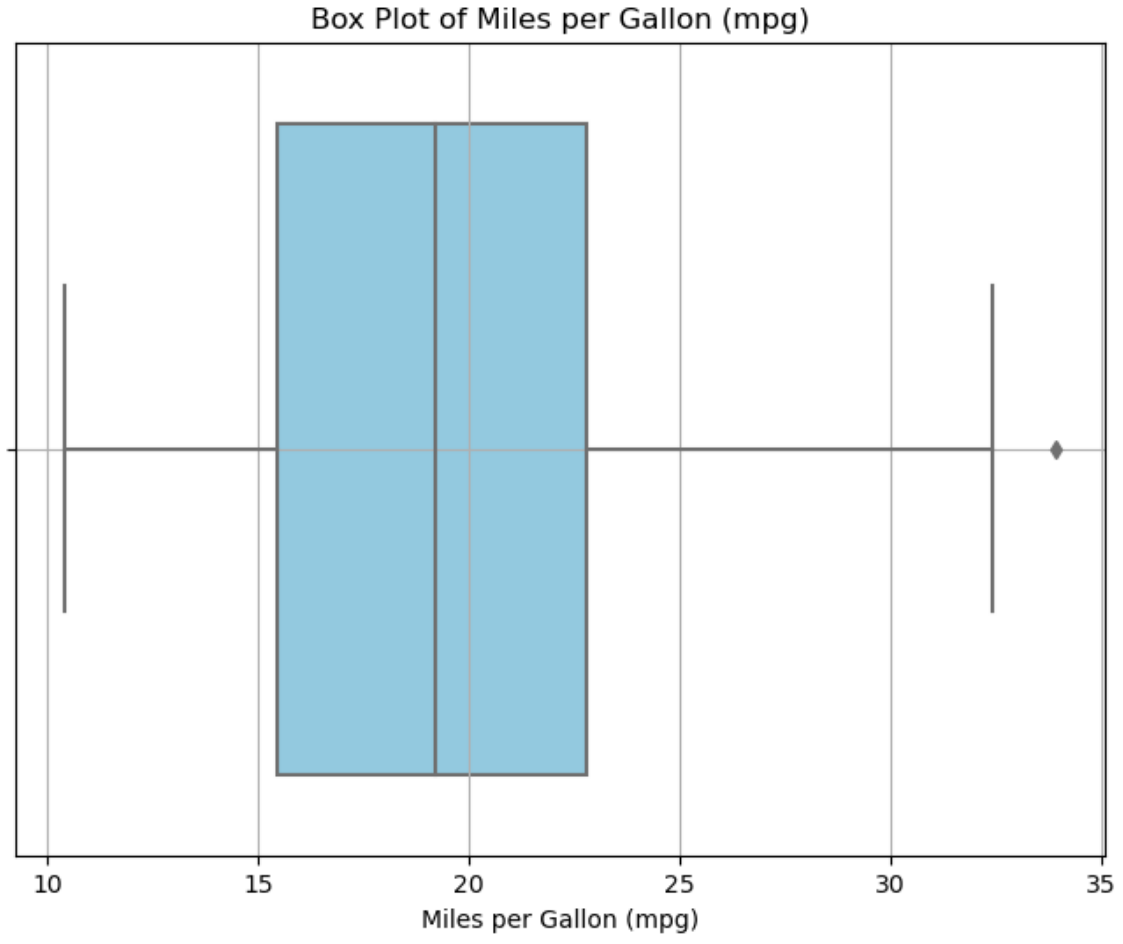
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np

df = pd.read_csv('D:/AIML/mtcars.csv')


plt.figure(figsize=(8, 6))
plt.hist(df['mpg'], bins=10, edgecolor='k', alpha=0.7)
plt.xlabel('Miles per Gallon (mpg)')
plt.ylabel('Frequency')
plt.title('Frequency Distribution of mpg')
plt.grid(True)
plt.show()


hist_values,bin_edges= np.histogram(df['mpg'], bins=10)
max_freq_interval = (bin_edges[np.argmax(hist_values)], bin_edges[np.argmax(hist_values)
print(f"Interval with highest frequency: {max_freq_interval}")


plt.figure(figsize=(8, 6))
plt.scatter(df['wt'], df['mpg'], alpha=0.7, color='blue')
plt.xlabel('Weight (1000 lbs)')
plt.ylabel('Miles per Gallon (mpg)')
plt.title('Scatter Plot: Weight vs. mpg')
plt.grid(True)
plt.show()


transmission_counts = df['am'].value_counts()
transmission_labels = ['Automatic', 'Manual']

plt.figure(figsize=(8, 6))
sns.barplot(x=transmission_labels, y=transmission_counts, palette="viridis")
plt.xlabel('Transmission Type')
plt.ylabel('Frequency')
plt.title('Frequency Distribution of Transmission Type')
plt.show()

plt.figure(figsize=(8, 6))
sns.boxplot(x='mpg', data=df, color='skyblue')
plt.xlabel('Miles per Gallon (mpg)')
plt.title('Box Plot of Miles per Gallon (mpg)')
plt.grid(True)
plt.show()
```




```
Interval with highest frequency: (15.100000000000001, 17.450000000000003)
```




Frequency Distribution of Transmission Type
Frequency
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
Automatic
Manual
Transmission Type


Box Plot of Miles per Gallon (mpg)
10
15
20
25
30
35
Miles per Gallon (mpg)