[4]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import folium
from folium.plugins import HeatMap
```

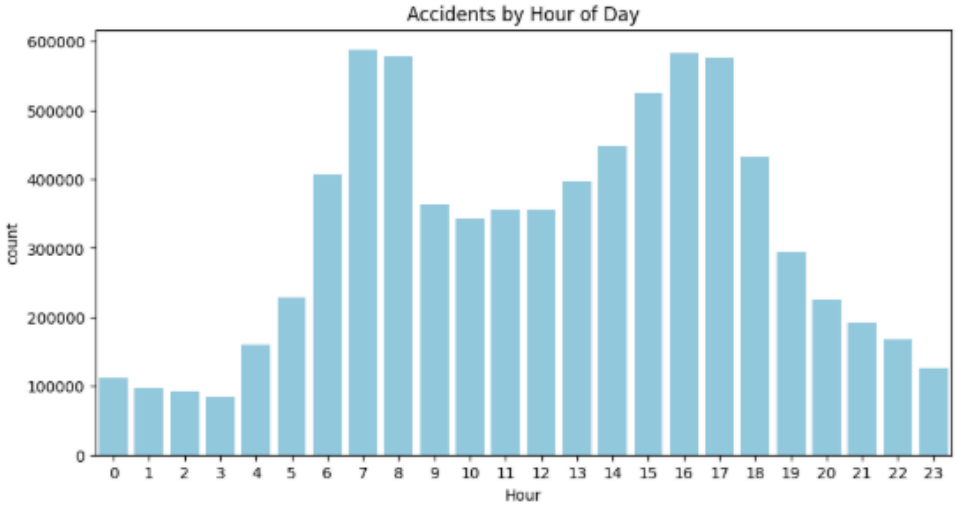
[ ]:
```
df = pd.read_csv("accidents.csv")
print(df.head())
print(df.info())
```

[5]:
```
df['Start_Time'] = pd.to_datetime(df['Start_Time'], format='ISO8601')
```

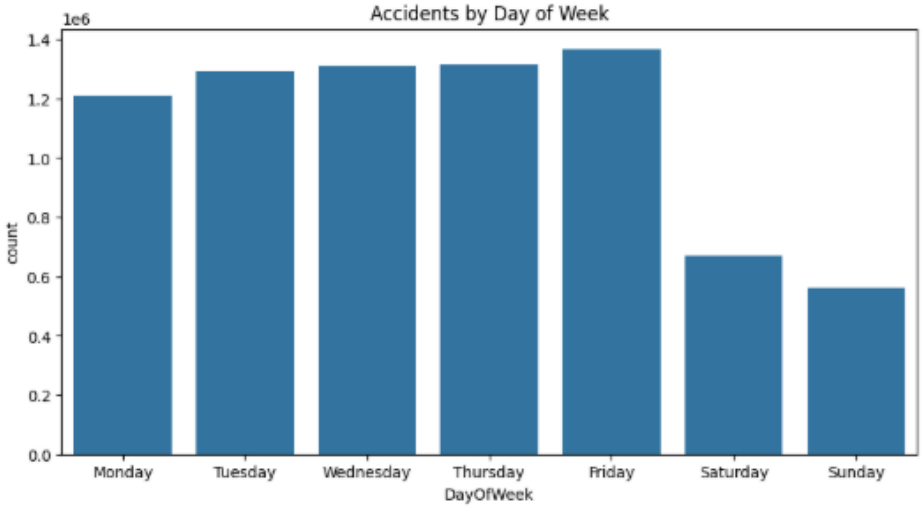
[6]:
```
df['Start_Time'] = pd.to_datetime(df['Start_Time'])
df['Hour'] = df['Start_Time'].dt.hour
df['DayOfWeek'] = df['Start_Time'].dt.day_name()
df['Month'] = df['Start_Time'].dt.month_name()
print(df.isnull().sum())
```

```
ID                          0
Source                      0
Severity                    0
Start_Time                  0
End_Time                    0
Start_Lat                   0
Start_Lng                   0
End_Lat                3402762
End_Lng                3402762
Distance(mi)                0
Description                 5
Street                  10869
City                      253
County                      0
State                       0
Zipcode                  1915
Country                     0
Timezone                 7808
Airport_Code            22635
Weather_Timestamp      120228
Temperature(F)         163853
Wind_Chill(F)         1999019
Humidity(%)            174144
Pressure(in)           140679
Visibility(mi)         177098
Wind_Direction         175206
Wind_Speed(mph)        571233
Precipitation(in)     2203586
Weather_Condition      173459
Amenity                     0
Bump                        0
Crossing                    0
Give_Way                    0
Junction                    0
No_Exit                     0
Railway                     0
Roundabout                  0
Station                     0
Stop                        0
Traffic_Calming             0
Traffic_Signal              0
Turning_Loop                0
Sunrise_Sunset          23246
Civil_Twilight          23246
Nautical_Twilight       23246
Astronomical_Twilight   23246
Hour                        0
DayOfWeek                   0
Month                       0
dtype: int64
```

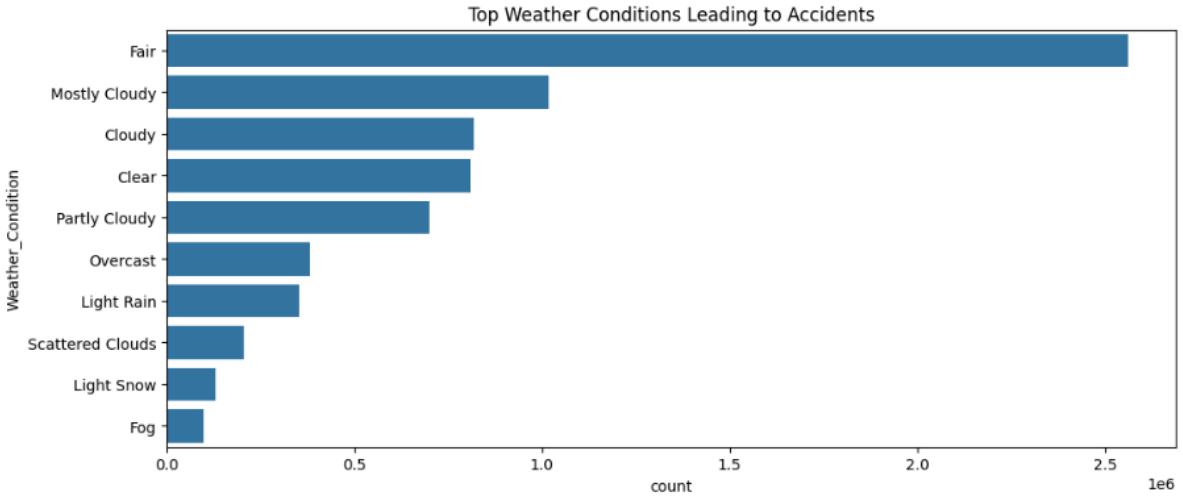
[8]:
```
plt.figure(figsize=(10,5))
sns.countplot(x="Hour", data=df,color="skyblue")
plt.title("Accidents by Hour of Day")
plt.show()
```



[9]:
```
plt.figure(figsize=(10,5))
sns.countplot(x="DayOfWeek", data=df, order=["Monday","Tuesday","Wednesday","Thursday","Friday","Saturday","Sunday"])
plt.title("Accidents by Day of Week")
plt.show()
```



[10]:
```
plt.figure(figsize=(12,5))
sns.countplot(y="Weather_Condition", data=df, order=df["Weather_Condition"].value_counts().head(10).index)
plt.title("Top Weather Conditions Leading to Accidents")
plt.show()
```



[13]:
```
df['Start_Lat'] = pd.to_numeric(df['Start_Lat'], errors='coerce')
df['Start_Lng'] = pd.to_numeric(df['Start_Lng'], errors='coerce')
df = df.dropna(subset=['Start_Lat','Start_Lng'])

# Create map
m = folium.Map(location=[df['Start_Lat'].mean(), df['Start_Lng'].mean()], zoom_start=6)

# Add heatmap with adjusted radius
HeatMap(data=df[['Start_Lat', 'Start_Lng']], radius=15, blur=10).add_to(m)

# Save to file
m.save("accident_hotspots.html")
```