In [21]:
```python
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [22]:
```python
#load the datasets
data= pd.read_csv("US_Accidents_Dec20_Updated.csv")
```

```
C:\Users\divya\AppData\Local\Temp\ipykernel_13944\1076370089.py:2: DtypeWa
rning: Columns (30,31,32,33,34,35,36,37,38,39,40,41,42) have mixed types.
Specify dtype option on import or set low_memory=False.
  data= pd.read_csv("US_Accidents_Dec20_Updated.csv")
```

In [23]:
```python
data.head(7)
```

Out[23]:

	ID	Severity	Start_Time	End_Time	Start_Lat	Start_Lng	End_Lat	End_Lng	Distal
0	A-1	2	2019-05-21 08:29:55	2019-05-21 09:29:40	34.808868	-82.269157	34.808868	-82.269157	
1	A-2	2	2019-10-07 17:43:09	2019-10-07 19:42:50	35.090080	-80.745560	35.090080	-80.745560	
2	A-3	2	2020-12-13 21:53:00	2020-12-13 22:44:00	37.145730	-121.985052	37.165850	-121.988062	
3	A-4	2	2018-04-17 16:51:23	2018-04-17 17:50:46	39.110390	-119.773781	39.110390	-119.773781	
4	A-5	3	2016-08-31 17:40:49	2016-08-31 18:10:49	26.102942	-80.265091	26.102942	-80.265091	
5	A-6	3	2018-10-17 16:40:36	2018-10-17 17:10:18	35.348240	-80.847221	35.348240	-80.847221	
6	A-7	4	2019-12-12 09:48:52	2019-12-12 10:18:05	39.523970	-107.777000	39.565780	-107.516950	

7 rows × 47 columns
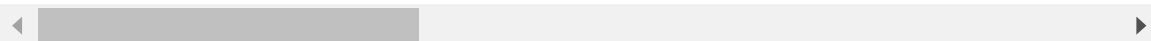
In [24]:
```python
sel_columns = ['ID', 'Severity', 'Start_Time', 'End_Time','Source']
```

In [25]:
```python
imp_columns = ['Severity', 'Start_Time']
data.dropna(subset=imp_columns, inplace=True)
```

In [26]:
```python
data['Start_Time'] = pd.to_datetime(df['Start_Time'], errors='coerce')
```

In [27]:
```python
data.dropna(subset=['Start_Time'], inplace=True)
```
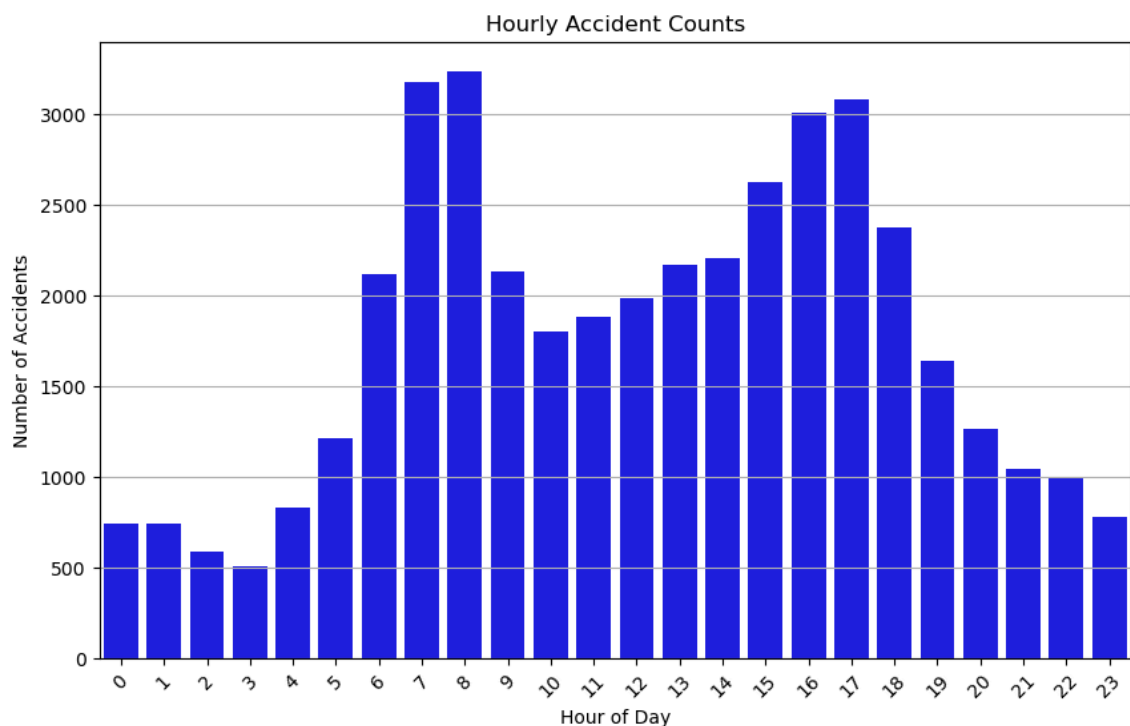
In [28]:
```python
data['Hour'] = data['Start_Time'].dt.hour
```

In [29]:
```python
hourly_accidents = data.groupby('Hour').size()
```

In [30]:
```python
weather_accidents = data.groupby('Weather_Condition').size().sort_values(as
```

In [31]:
```python
city_accidents = data.groupby('City').size().sort_values(ascending=False).h
```

In [32]:
```python
# Visualize accident patterns
plt.figure(figsize=(10, 6))
sns.barplot(x=hourly_accidents.index, y=hourly_accidents.values, color='blu
plt.title('Hourly Accident Counts')
plt.xlabel('Hour of Day')
plt.ylabel('Number of Accidents')
plt.xticks(rotation=45)
plt.grid(axis='y')
plt.show()
```


In [ ]: