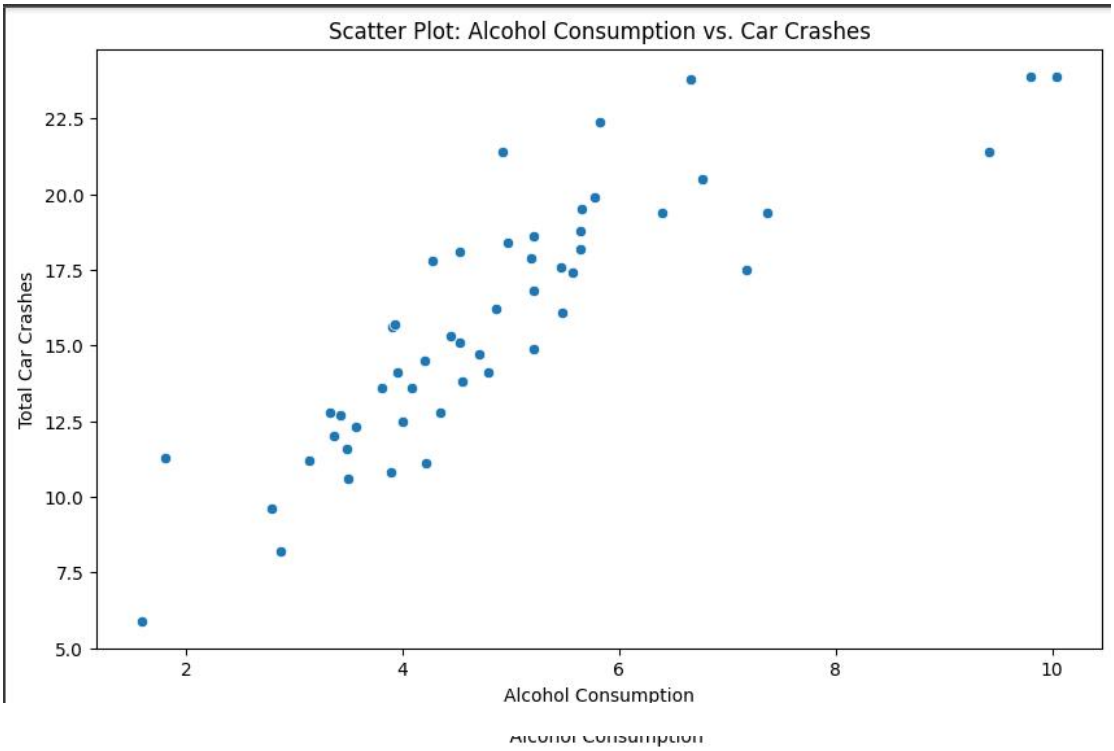
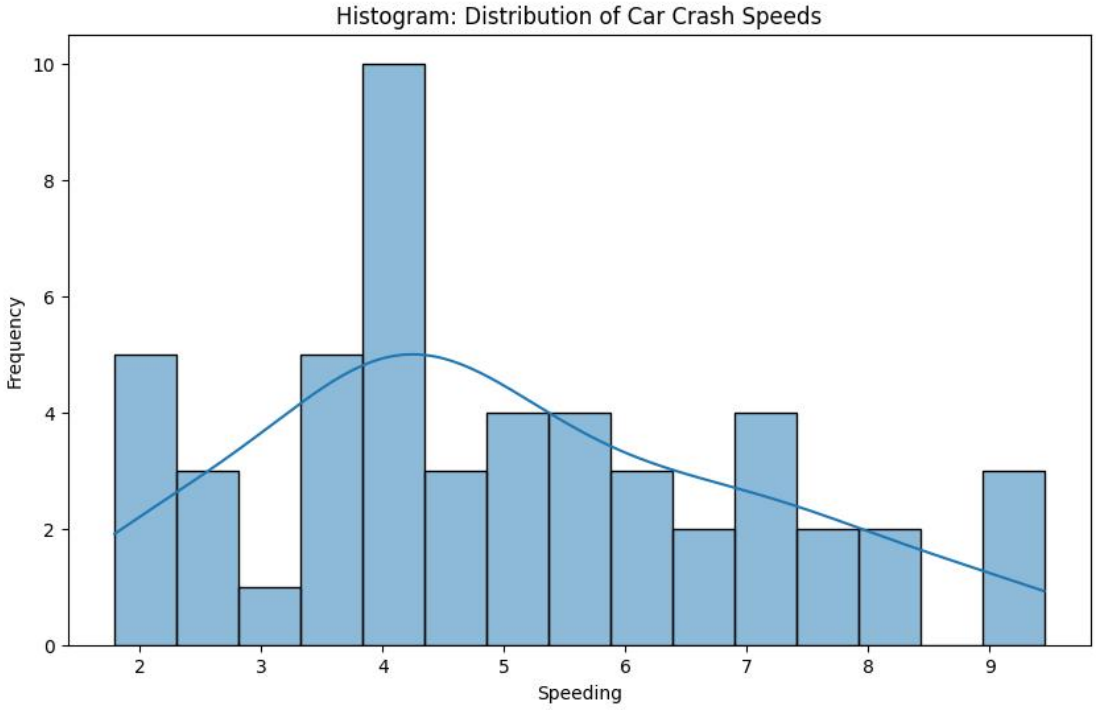
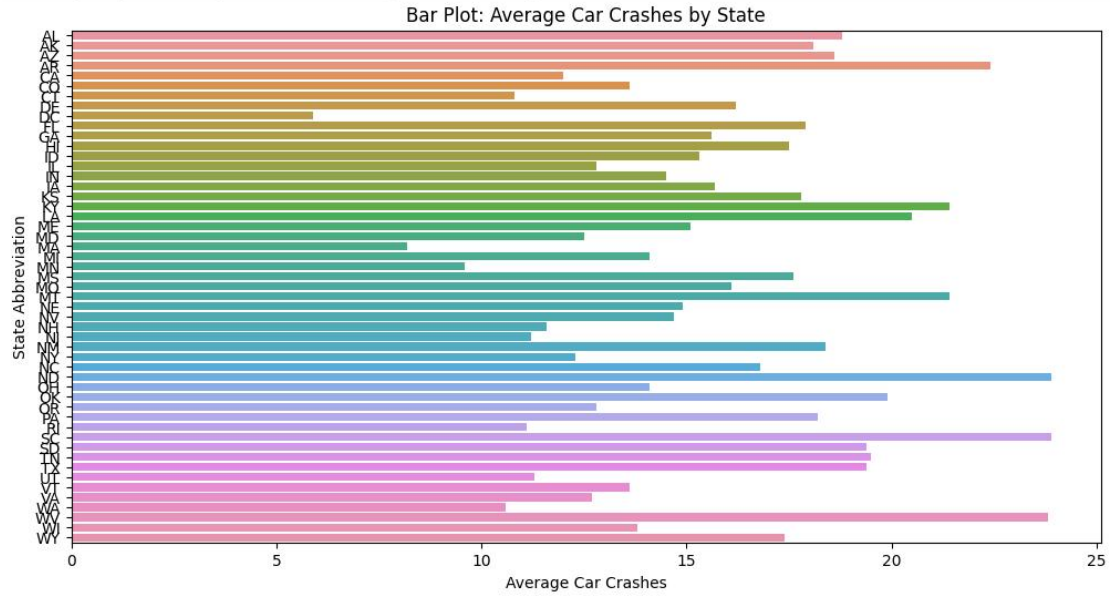
Name:- Harsh sinha
Reg no:- 21BLC1419
Assignment:- 2

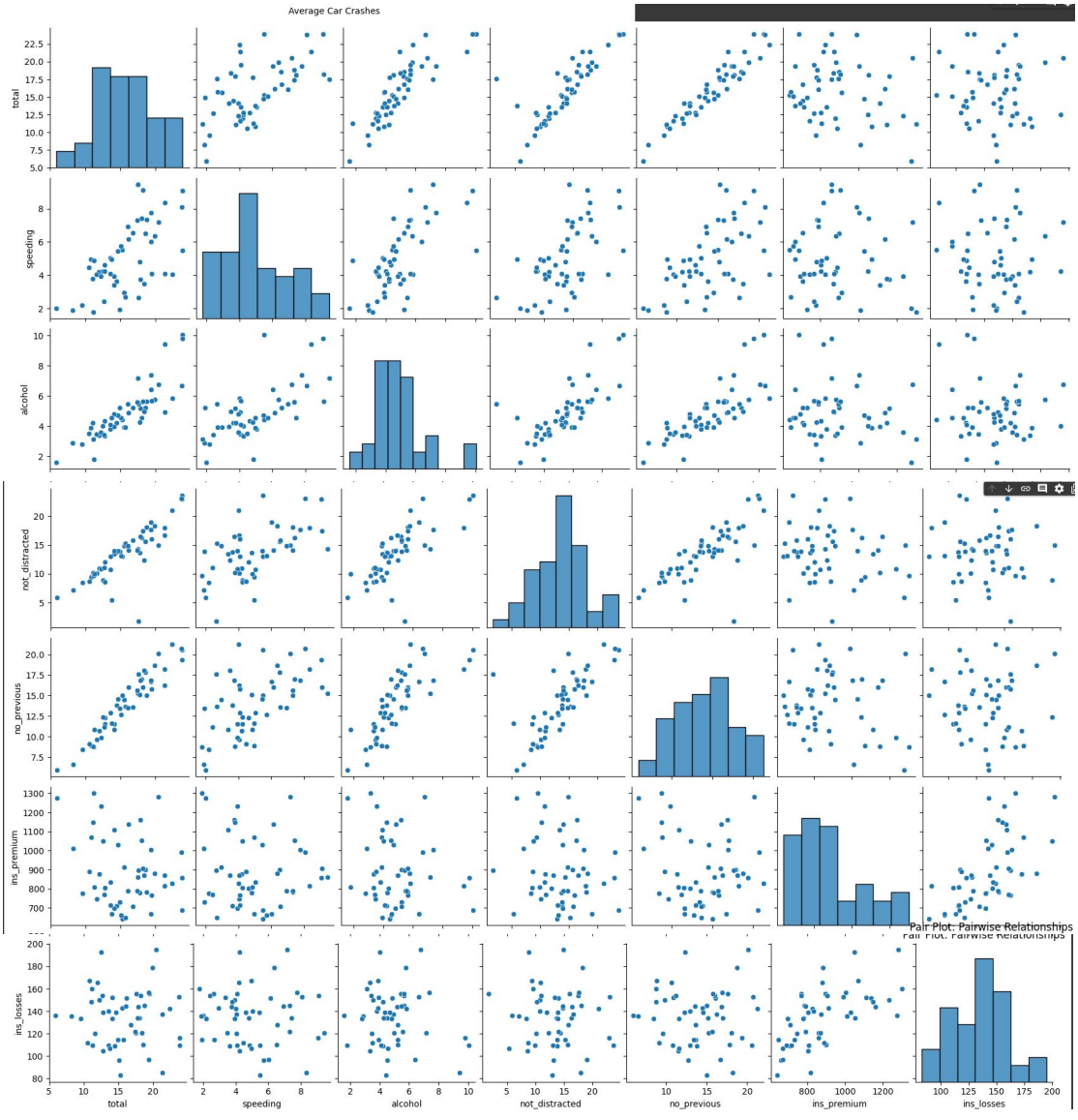
```
import seaborn as sns
import matplotlib.pyplot as plt

car_crashes = sns.load_dataset("car_crashes")

print(car_crashes.head())

# Data Visualization
# Let's create various types of visualizations:

plt.figure(figsize=(10, 6))
sns.scatterplot(x="alcohol", y="total", data=car_crashes)
plt.title("Scatter Plot: Alcohol Consumption vs. Car Crashes")
plt.xlabel("Alcohol Consumption")
plt.ylabel("Total Car Crashes")
plt.show()

plt.figure(figsize=(10, 6))
sns.histplot(data=car_crashes, x="speeding", bins=15, kde=True)
plt.title("Histogram: Distribution of Car Crash Speeds")
plt.xlabel("Speeding")
plt.ylabel("Frequency")
plt.show()

plt.figure(figsize=(12, 6))
sns.barplot(x="total", y="abbrev", data=car_crashes, ci=None)
plt.title("Bar Plot: Average Car Crashes by State")
plt.xlabel("Average Car Crashes")
plt.ylabel("State Abbreviation")
plt.show()

sns.pairplot(car_crashes)
plt.title("Pair Plot: Pairwise Relationships")
plt.show()
```

```
   total  speeding  alcohol  not_distracted  no_previous  ins_premium  \
0   18.8     7.332    5.640          18.048       15.040       784.55
1   18.1     7.421    4.525          16.290       17.014      1053.48
2   18.6     6.510    5.208          15.624       17.856       899.47
3   22.4     4.032    5.824          21.056       21.280       827.34
4   12.0     4.200    3.360          10.920       10.680       878.41

   ins_losses abbrev
0      145.08     AL
1      133.93     AK
2      110.35     AZ
3      142.39     AR
4      165.63     CA
```


Scatter Plot: Alcohol Consumption vs. Car Crashes
Total Car Crashes
Alcohol Consumption
5.0
7.5
10.0
12.5
15.0
17.5
20.0
22.5
2
4
6
8
10


Histogram: Distribution of Car Crash Speeds
Frequency
Speeding
0
2
4
6
8
10
2
3
4
5
6
7
8
9


Bar Plot: Average Car Crashes by State
State Abbreviation
Average Car Crashes
0
5
10
15
20
25


Average Car Crashes
total
speeding
alcohol
not_distracted
no_previous
ins_premium
ins_losses
Pair Plot: Pairwise Relationships