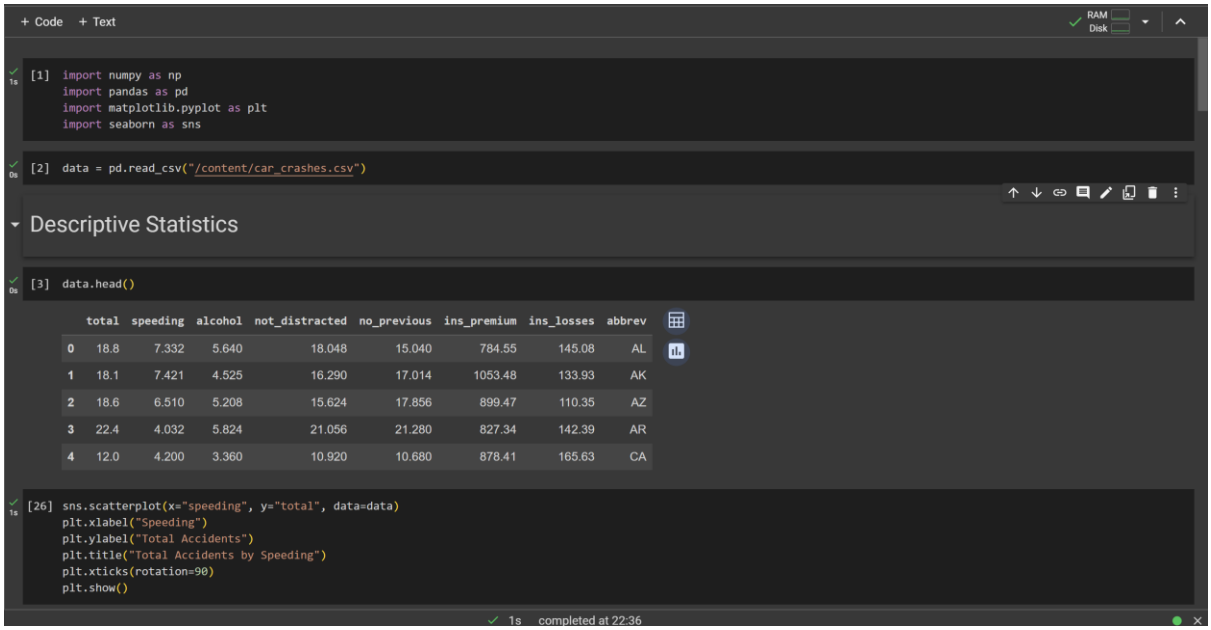
SmartInternz

AIML – Assignment 3

Rahul Palanivel

21BCE7828

Assignment 8 th September:
1.Take car_crashes dataset from seaborn library
2.load the dataset
3.Perfrom Data Visualization
4.Inference is must for each and every graph
5.Submit it by wednesday in html format



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

```
[2] data = pd.read_csv("/content/car_crashes.csv")
```

Descriptive Statistics

```
[3] data.head()
```

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses	abbrev
0	18.8	7.332	5.640	18.048	15.040	784.55	145.08	AL
1	18.1	7.421	4.525	16.290	17.014	1053.48	133.93	AK
2	18.6	6.510	5.208	15.624	17.856	899.47	110.35	AZ
3	22.4	4.032	5.824	21.056	21.280	827.34	142.39	AR
4	12.0	4.200	3.360	10.920	10.680	878.41	165.63	CA

```
[26] sns.scatterplot(x="speeding", y="total", data=data)
     plt.xlabel("Speeding")
     plt.ylabel("Total Accidents")
     plt.title("Total Accidents by Speeding")
     plt.xticks(rotation=90)
     plt.show()
```

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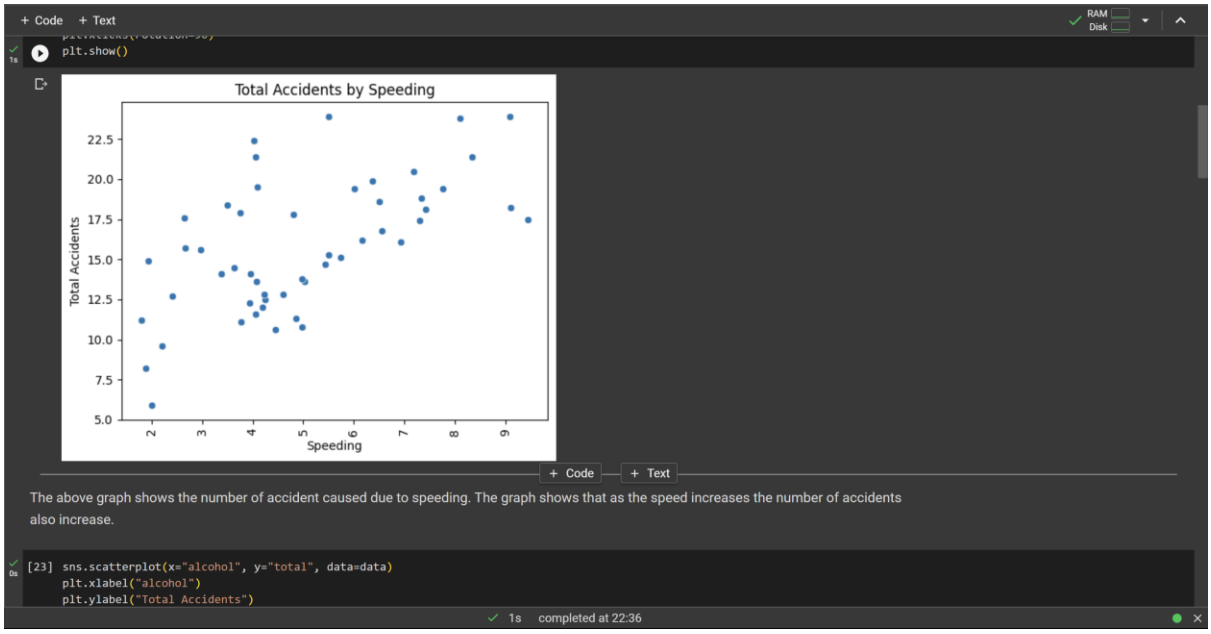

```
plt.show()
```


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The above graph shows the number of accident caused due to speeding. The graph shows that as the speed increases the number of accidents also increase.

```
[23] sns.scatterplot(x="alcohol", y="total", data=data)
     plt.xlabel("alcohol")
     plt.ylabel("Total Accidents")
```

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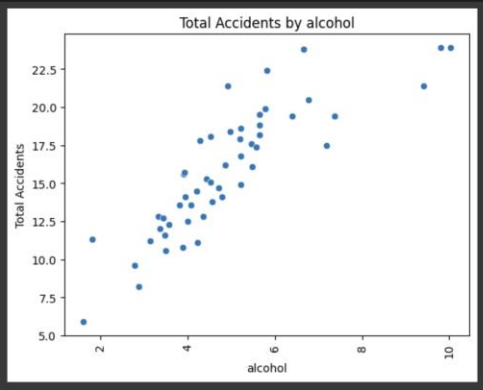
```
[23] sns.scatterplot(x="alcohol", y='total', data=data)
     plt.xlabel("alcohol")
     plt.ylabel("Total Accidents")
     plt.title("Total Accidents by alcohol")
     plt.xticks(rotation=90)
     plt.show()
```



The above graph shows the number of accident caused due to alcohol. The graph shows that as the alcohol consumption increases the number of accidents also increase.

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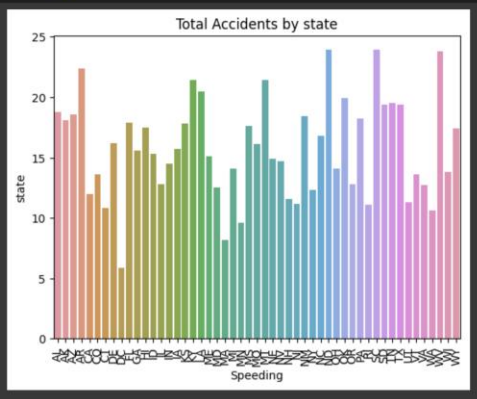
```
sns.barplot(x="abbrev", y="total", data=data)
plt.xlabel("Speeding")
plt.ylabel("state")
plt.title("Total Accidents by state")
plt.xticks(rotation=90)
plt.show()
```



The above graph shows the number of accident caused in each state

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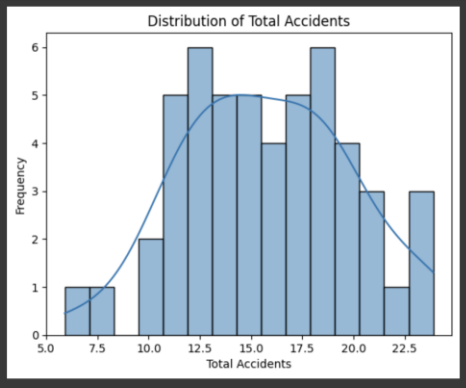
The above graph shows the number of accident caused in each state

```
[28] sns.histplot(data['total'], bins=15, kde=True)
     plt.xlabel("Total Accidents")
     plt.ylabel("Frequency")
     plt.title("Distribution of Total Accidents")
     plt.show()
```




```
[34] sns.lineplot(x='speeding', y='total', data=data)
```

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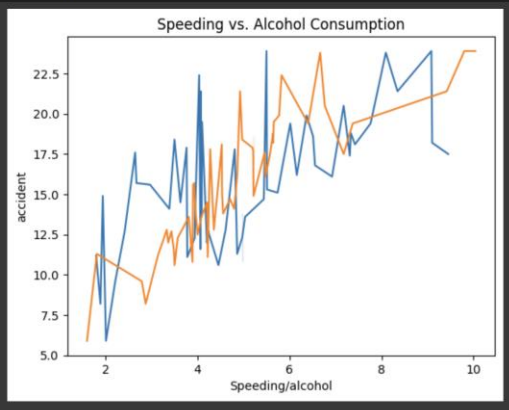
```
sns.lineplot(x='speeding', y='total', data=data)
sns.lineplot(x='alcohol', y='total', data=data)

plt.xlabel("Speeding/alcohol")
plt.ylabel("accident")
plt.title("Speeding vs. Alcohol Consumption")
plt.show()
```



The above graph shows the comparision between accidents due to speed and accidents due to alcohol

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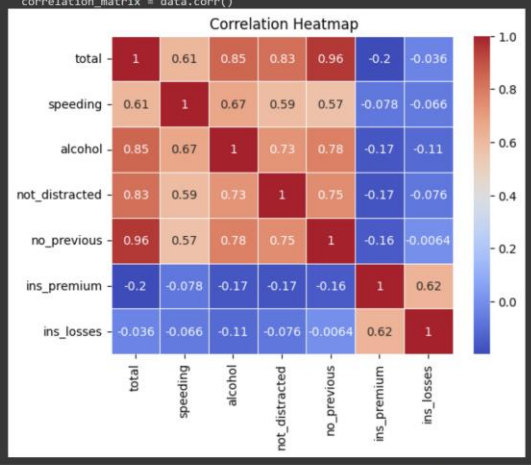
```
correlation_matrix = data.corr()
sns.heatmap(correlation_matrix, annot=True, cmap='coolwarm', linewidths=0.5)
plt.title("Correlation Heatmap")
plt.show()
```

```
<ipython-input-35-967ac05f8eb0>:1: FutureWarning: The default value of numeric_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select
  correlation_matrix = data.corr()
```



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