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

```
df=sns.load_dataset('car_crashes')
```

```
df.head()
```

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

```
df.info()
```

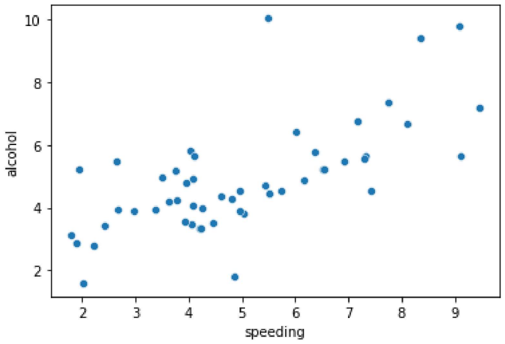
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51 entries, 0 to 50
Data columns (total 8 columns):
 #   Column          Non-Null Count  Dtype  
---  ------          --------------  -----  
 0   total           51 non-null     float64
 1   speeding        51 non-null     float64
 2   alcohol         51 non-null     float64
 3   not_distracted  51 non-null     float64
 4   no_previous     51 non-null     float64
 5   ins_premium     51 non-null     float64
 6   ins_losses      51 non-null     float64
 7   abbrev          51 non-null     object 
dtypes: float64(7), object(1)
memory usage: 3.3+ KB
```

```
df.describe()
```

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses
count	51.000000	51.000000	51.000000	51.000000	51.000000	51.000000	51.000000
mean	15.790196	4.998196	4.886784	13.573176	14.004882	886.957647	134.493137
std	4.122002	2.017747	1.729133	4.508977	3.764672	178.296285	24.835922
min	5.900000	1.792000	1.593000	1.760000	5.900000	641.960000	82.750000
25%	12.750000	3.766500	3.894000	10.478000	11.348000	768.430000	114.645000
50%	15.600000	4.608000	4.554000	13.857000	13.775000	858.970000	136.050000
75%	18.500000	6.439000	5.604000	16.140000	16.755000	1007.945000	151.870000
max	23.900000	9.450000	10.038000	23.661000	21.280000	1301.520000	194.780000

```
sns.scatterplot(x="speeding",y="alcohol",data=df)
```

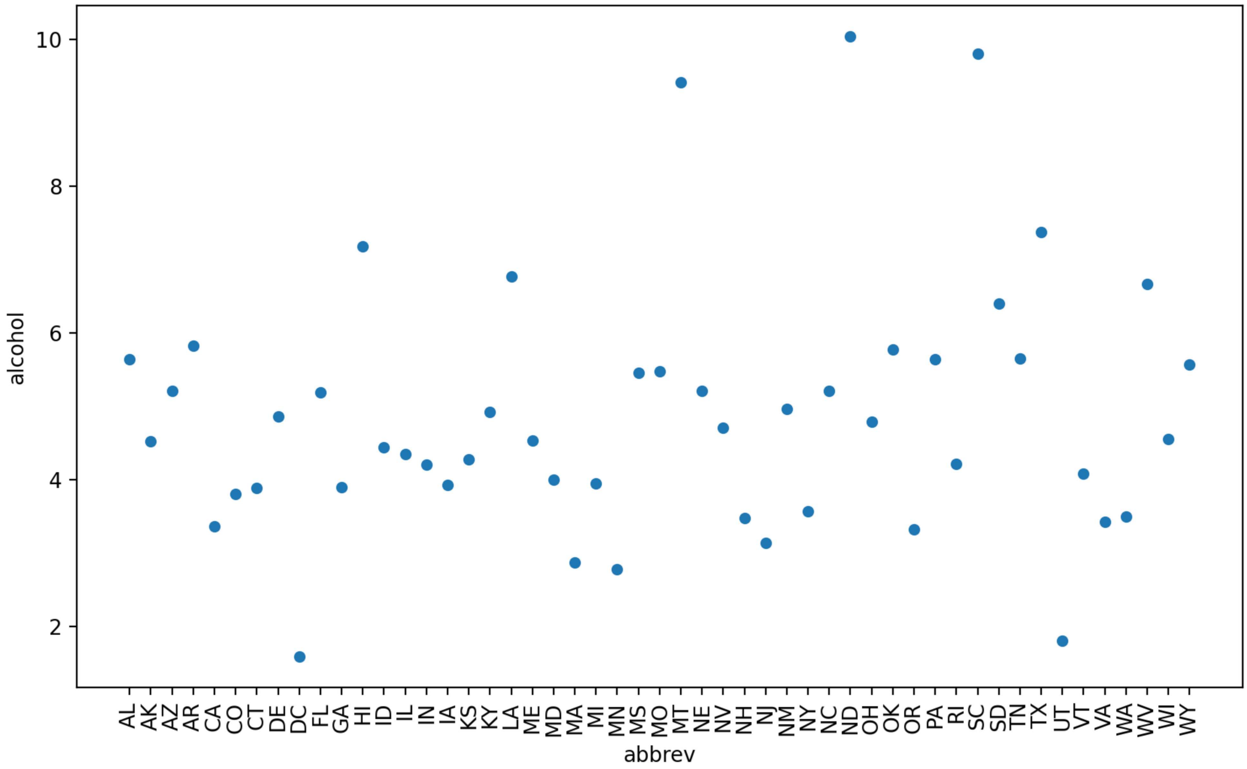
```
<AxesSubplot:xlabel='speeding', ylabel='alcohol'>
```



```
#inference: It shows the relation between speeding and alcohol.
```

```
plt.figure(figsize=(10,6),dpi=200)
sns.scatterplot(data=df,x="abbrev",y="alcohol")
```

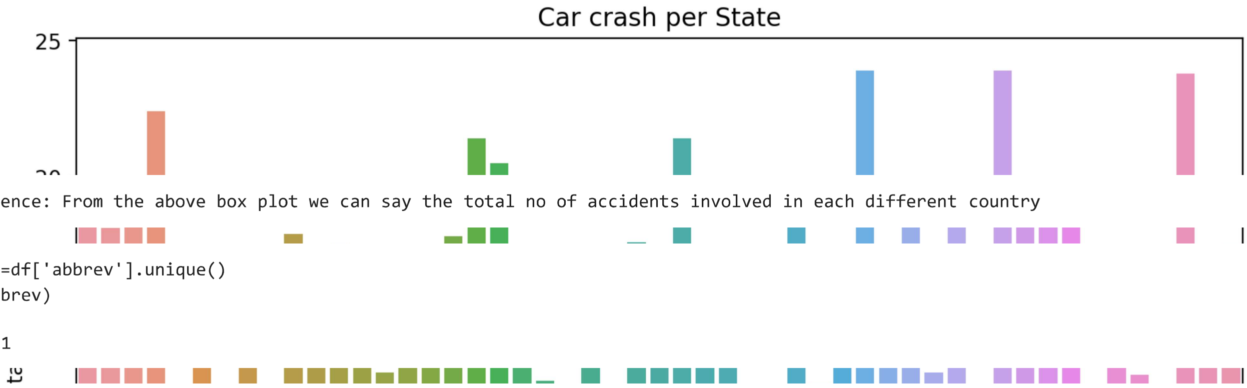
```
plt.xticks(rotation=90);
```



```
#inference: From the above scatter plot we can say the alcohol consumption accident in each different state
```

```
plt.figure(figsize=(10,6),dpi=200)
sns.barplot(data=df, x='abbrev', y='total')
plt.xticks(rotation=90);
plt.title("Car crash per State")
```

```
Text(0.5, 1.0, 'Car crash per State')
```



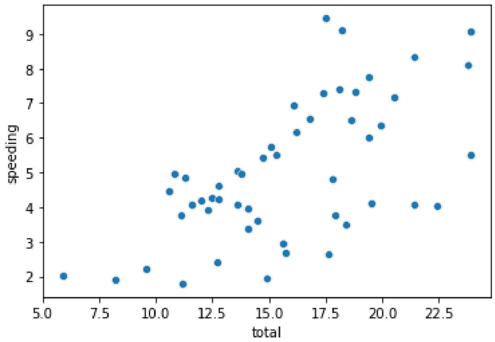
```
#inference: From the above box plot we can say the total no of accidents involved in each different country
```

```
abbrev=df['abbrev'].unique()
len(abbrev)
```

```
51
```

```
sns.scatterplot(data=df,x="total",y="speeding")
```

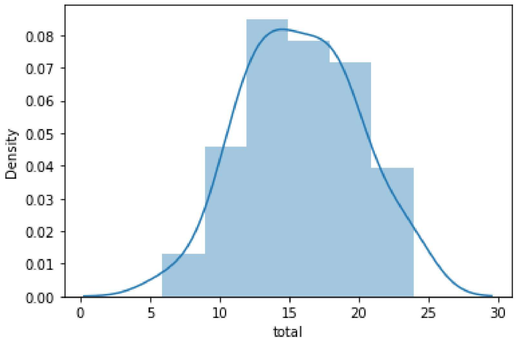
```
<AxesSubplot:xlabel='total', ylabel='speeding'>
```



```
#inference: The scatterplot displays the relationship between speeding and the total number of car crashes. It appears that as the percer
```

```
sns.distplot(df["total"])
```

```
C:\Users\praveen\anaconda3\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated funct
  warnings.warn(msg, FutureWarning)
<AxesSubplot:xlabel='total', ylabel='Density'>
```



```
#inference: It shows how the total no of crashes varies. It helps to visulise the shape.
```

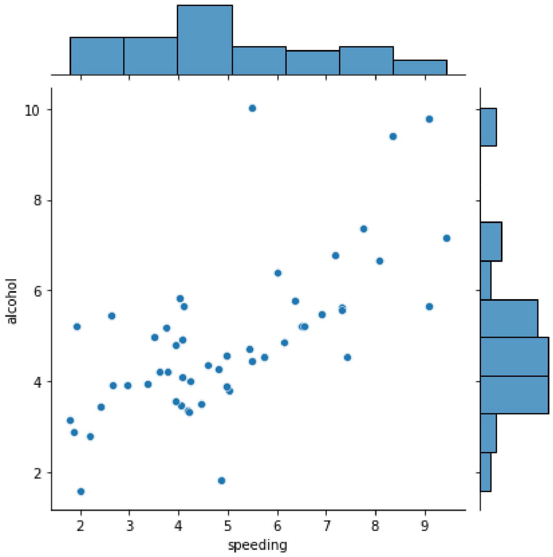
```
sns.relplot(x="speeding",y="alcohol",data=df,hue="ins_premium")
```

```
<seaborn.axisgrid.FacetGrid at 0x1bb33ffbdc0>
```

```
#inference: The relational plot shows the relationship between 'speeding' and 'alcohol' variables, with the 'ins_premium' variable repres
```

```
sns.jointplot(data=df,x='speeding',y='alcohol',kind='scatter')
```

```
<seaborn.axisgrid.JointGrid at 0x1bb34222490>
```



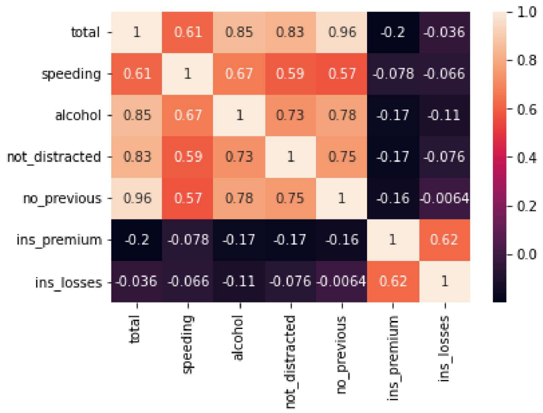
```
#inference:The joint plot combines a scatter plot and histograms to show the relationship between the 'speeding' and 'alcohol' variables.
```

```
corr=df.corr()
corr
```

	total	speeding	alcohol	not_distracted	no_previous	ins_premium	ins_losses
total	1.000000	0.611548	0.852613	0.827560	0.956179	-0.199702	-0.036011
speeding	0.611548	1.000000	0.669719	0.588010	0.571976	-0.077675	-0.065928
alcohol	0.852613	0.669719	1.000000	0.732816	0.783520	-0.170612	-0.112547
not_distracted	0.827560	0.588010	0.732816	1.000000	0.747307	-0.174856	-0.075970
no_previous	0.956179	0.571976	0.783520	0.747307	1.000000	-0.156895	-0.006359
ins_premium	-0.199702	-0.077675	-0.170612	-0.174856	-0.156895	1.000000	0.623116
ins_losses	-0.036011	-0.065928	-0.112547	-0.075970	-0.006359	0.623116	1.000000

```
sns.heatmap(corr,annot=True)
```

```
<AxesSubplot:>
```



```
#inference: It shows correlation matrix of the car crash. it shows how two variables depends on each other
```

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