```
print(“Shubh Udaybhai Pandya, 21BCE5770”)
```

```
Shubh Udaybhai Pandya, 21BCE5770
```

```
import seaborn as sns
```

```
print(sns.get_dataset_names())
```

```
['anagrams', 'anscombe', 'attention', 'brain_networks', 'car_crashes',
'diamonds', 'dots', 'dowjones', 'exercise', 'flights', 'fmri', 'geyser',
'glue', 'healthexp', 'iris', 'mpg', 'penguins', 'planets', 'seaice', 'taxis',
'tips', 'titanic']
```

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

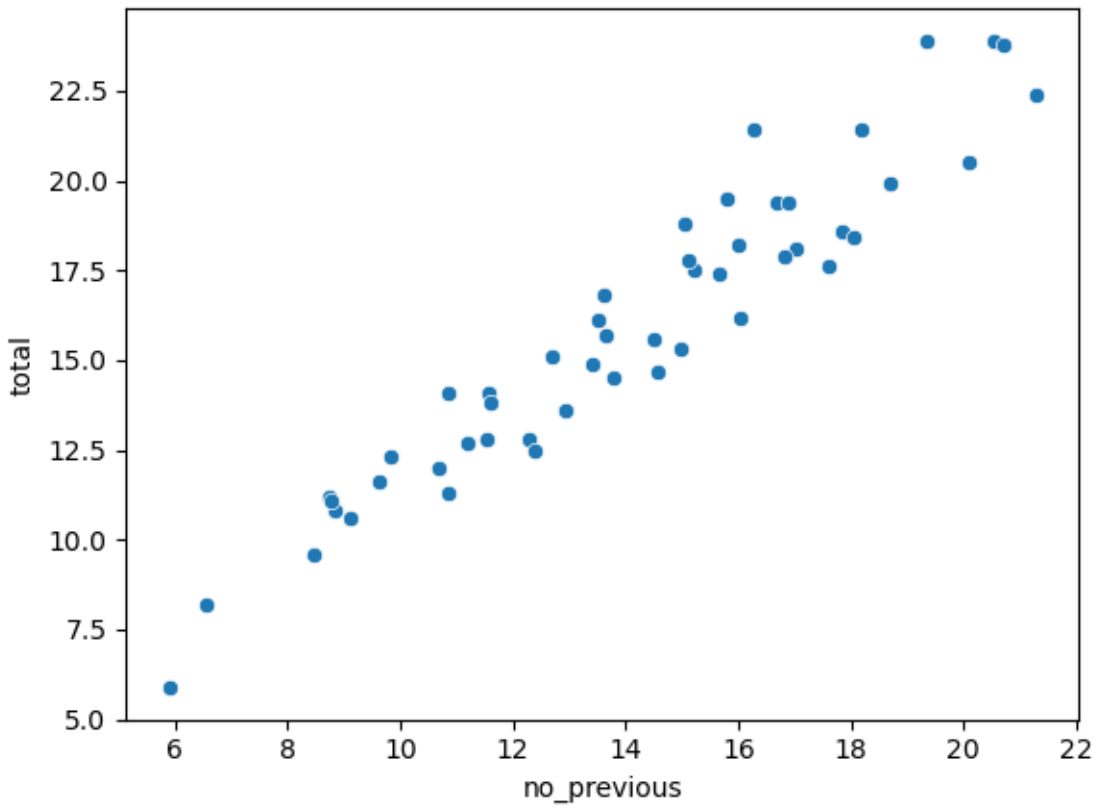
```
df.head(5)
```

```
   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
```

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

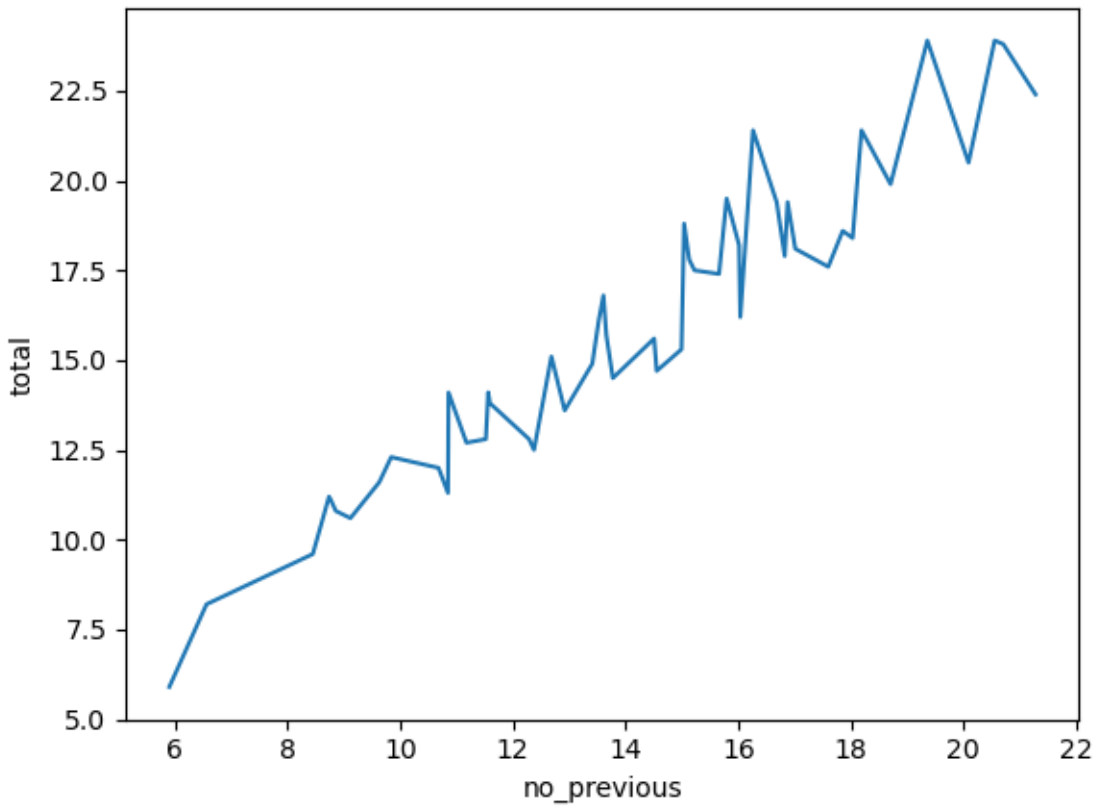
```
<Axes: xlabel='no_previous', ylabel='total'>
```



Inference: As the value of no_previous is increasing, the value of total is also increasing.

```
sns.lineplot(x="no_previous",y="total",data=df)
```

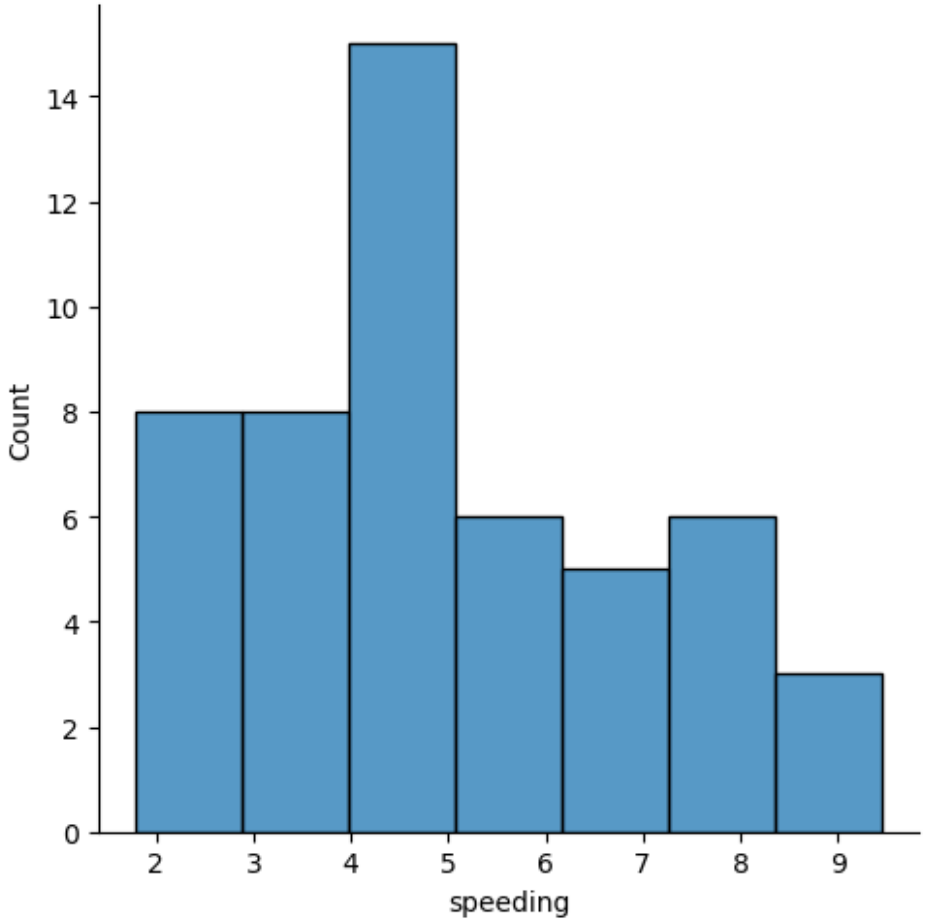
```
<Axes: xlabel='no_previous', ylabel='total'>
```



Inference:The line plot reveals an overall positive correlation between the "no_previous" and "total" variables,but there are instances where negative correlations exist, suggesting that in some cases, an increase in "no_previous" incidents might lead to a decrease in total outcomes.

```
sns.displot(df['speeding'])
```

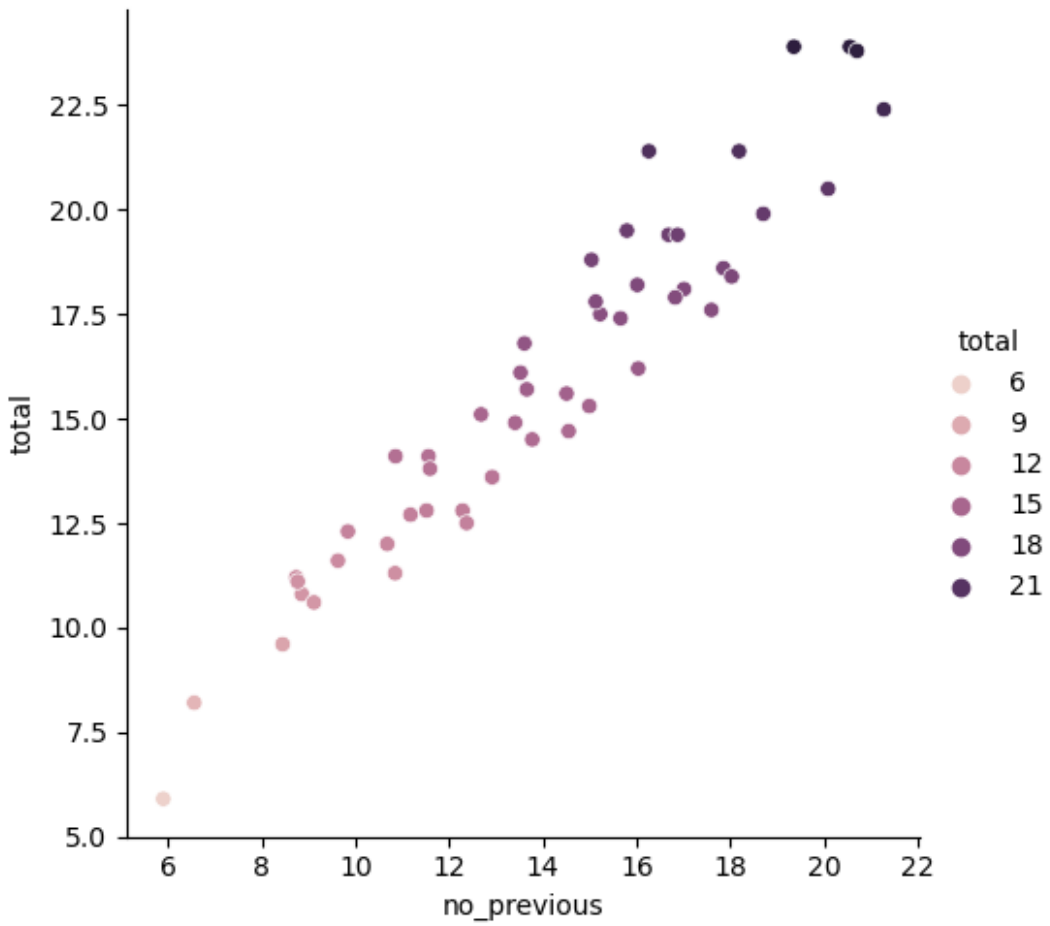
```
<seaborn.axisgrid.FacetGrid at 0x2b6c6480fd0>
```



Inference: The most number of speedings are between the value of 4-5.Most areas have low speeding rates, there are specific locations or cases with significantly higher rates of speeding.

```
sns.relplot(x="no_previous", y="total", data=df, hue="total")
```

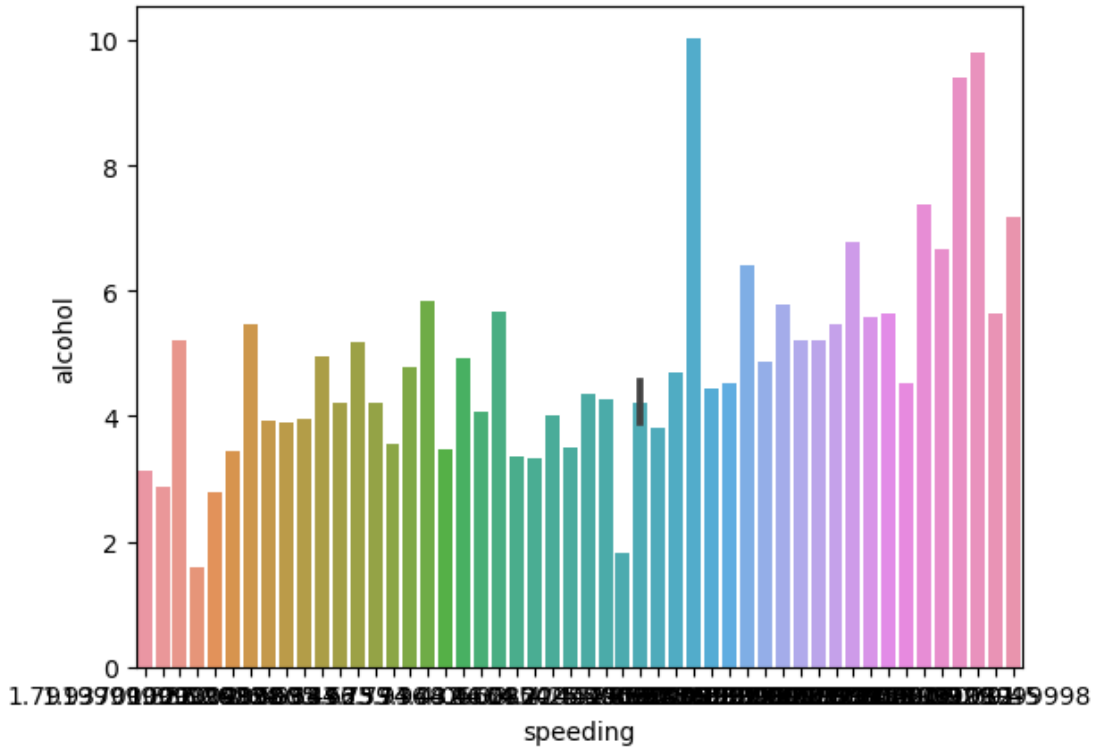
```
<seaborn.axisgrid.FacetGrid at 0x2b6d33c7790>
```



Inference: The relational plot shows a positive correlation between the number of incidents . However, there are variations in total outcomes for the same number of incidents, suggesting the influence of other factors on the results.

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

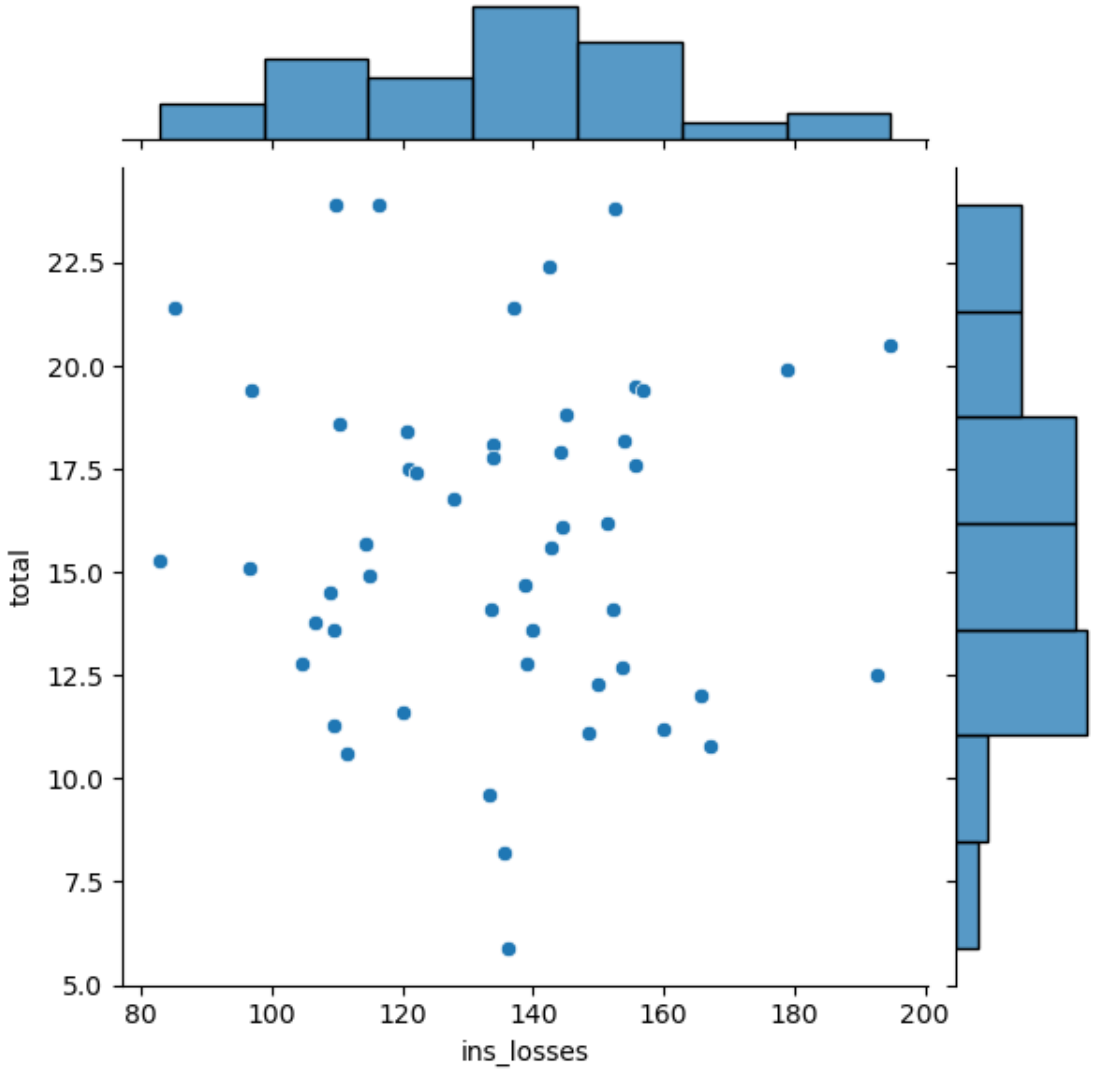
```
<Axes: xlabel='speeding', ylabel='alcohol'>
```



Inference: The max of alcohol was around 10.The value of alcohol is more at values of speeding at the end.

```
sns.jointplot(x="ins_losses",y="total",data=df)
```

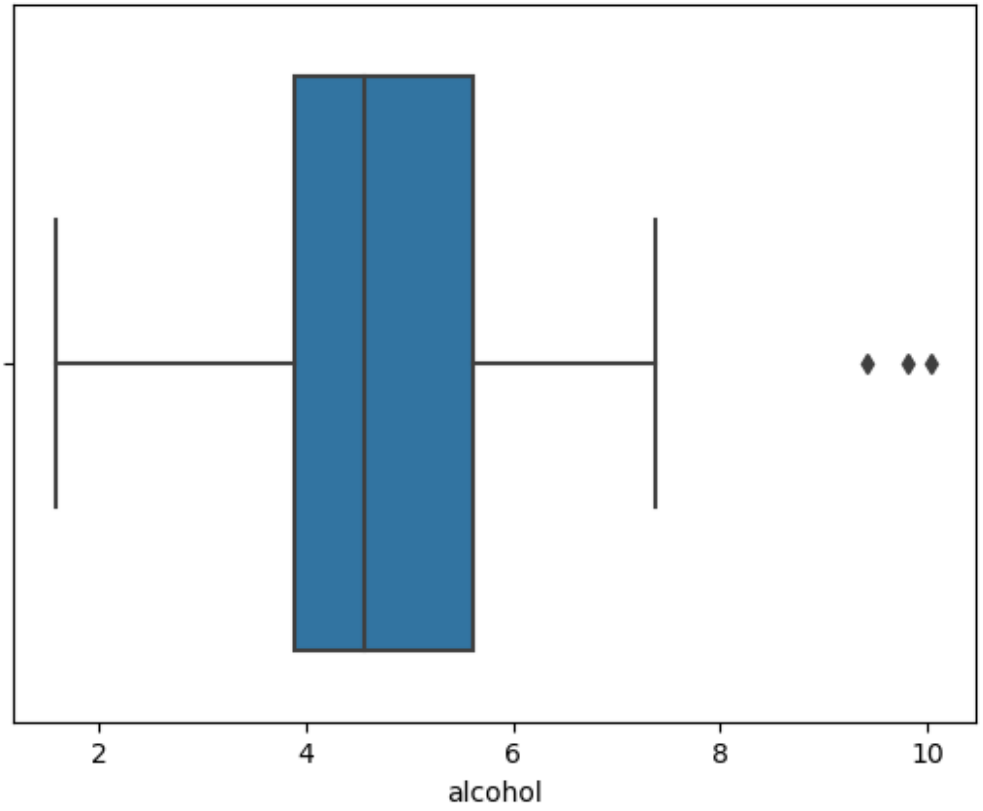
```
<seaborn.axisgrid.JointGrid at 0x2b6d19b5910>
```



Inference: there are some regions where higher insurance losses seem to be associated with higher total crash numbers.

```
sns.boxplot(x="alcohol",data=df)
```

```
<Axes: xlabel='alcohol'>
```



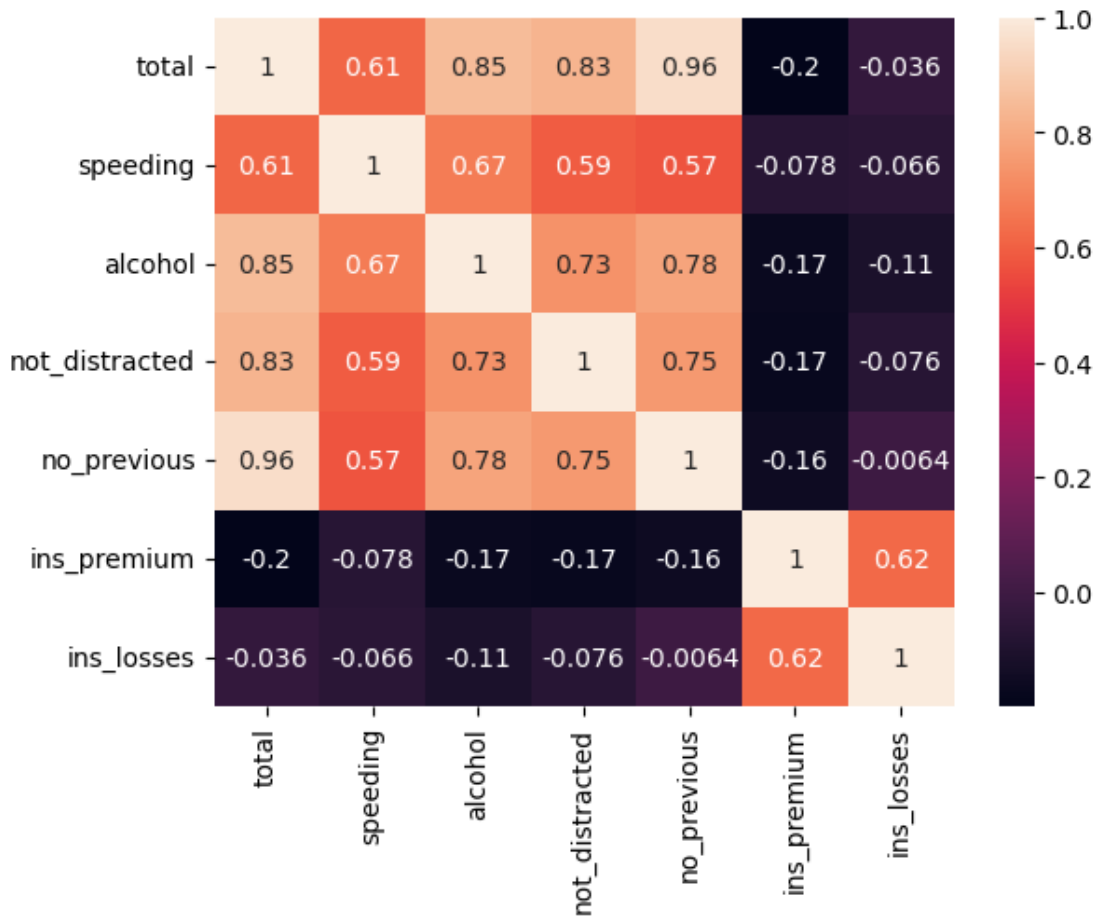
Inference :The median appears to be around 5.0, suggesting that the median alcohol-related accidents are moderate.There are a few outliers on the right side of the plot, indicating that some observations have higher alcohol-related accident rates compared to the majority.

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

```
C:\Users\rajes\AppData\Local\Temp\ipykernel_1020\1726683880.py:1:
FutureWarning: The default value of numeric_only in DataFrame.corr is
deprecated. In a future version, it will default to False. Select only valid
columns or specify the value of numeric_only to silence this warning.
  corr=df.corr()
```

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

```
<Axes: >
```



Inference:Each cell represents the correlation between two variables. The color intensity of each cell indicates the strength and direction of the correlation.Positive correlations are represented with light colors.Variables with a strong positive correlation will have higher values, often closer to 1 and vice versa.For eg- no_previous and total have highest positive correlaation between them. Alcohol and non-distracted have highest negative correlation between them.