



# Assignment

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In [1]: `import seaborn as sns`

In [3]: `dt=sns.load_dataset('car_crashes')`


**veda**


In [4]: `dt`

Out[4]:

	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
5	13.6	5.032	3.808	10.744	12.920	835.50	139.91	CO
6	10.8	4.968	3.888	9.396	8.856	1068.73	167.02	CT
7	16.2	6.156	4.860	14.094	16.038	1137.87	151.48	DE
8	5.9	2.006	1.593	5.900	5.900	1273.89	136.05	DC
9	17.9	3.759	5.191	16.468	16.826	1160.13	144.18	FL
10	15.6	2.964	3.900	14.820	14.508	913.15	142.80	GA
11	17.5	9.450	7.175	14.350	15.225	861.18	120.92	HI
12	15.3	5.508	4.437	13.005	14.994	641.96	82.75	ID
13	12.8	4.608	4.352	12.032	12.288	803.11	139.15	IL
14	11.5	2.625	4.205	13.775	13.775	710.46	108.92	IN

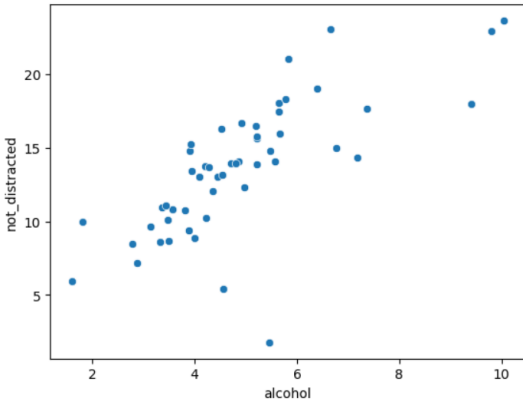
237cb6c33ca82fad1fadf5668a58c5a3ca04b36311e

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In [6]: `sns.scatterplot(x="alcohol",y="not_distracted",data=dt)`

Out[6]: `<Axes: xlabel='alcohol', ylabel='not_distracted'>`



inference:with this plot we can observe that the person consuming alcohol gets distracted comaperd to not taking alcohol

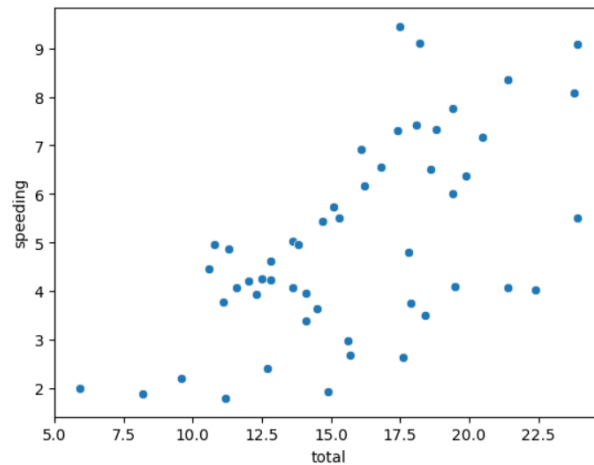
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Run Code

```
In [8]: sns.scatterplot(x="total",y="speeding",data=dt)
```

```
Out[8]: <Axes: xlabel='total', ylabel='speeding'>
```



**inference:the people speeding is directly propotional to the noof accidents**

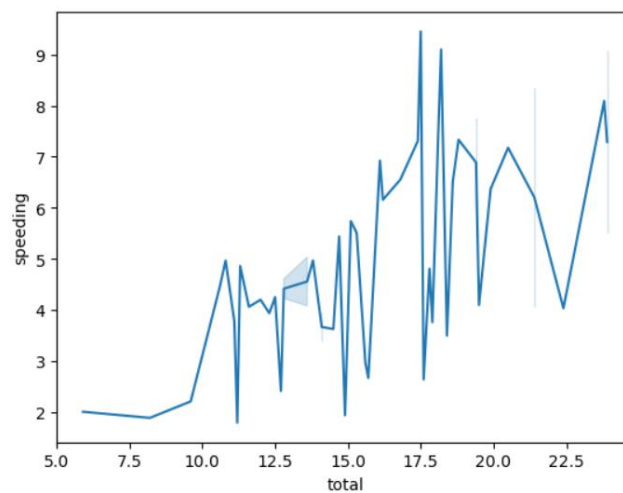
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Run Code

```
In [11]: sns.lineplot(x="total",y="speeding",data=dt)
```

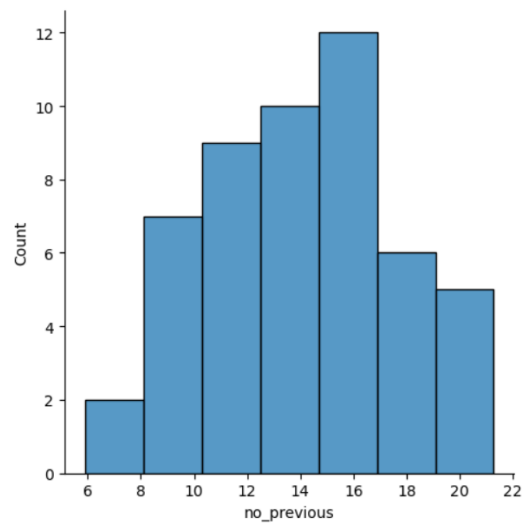
```
Out[11]: <Axes: xlabel='total', ylabel='speeding'>
```



**inference:the above line plot shows the frequency of total accidents at people speeding**

```
In [13]: sns.displot(dt["no_previous"])
```

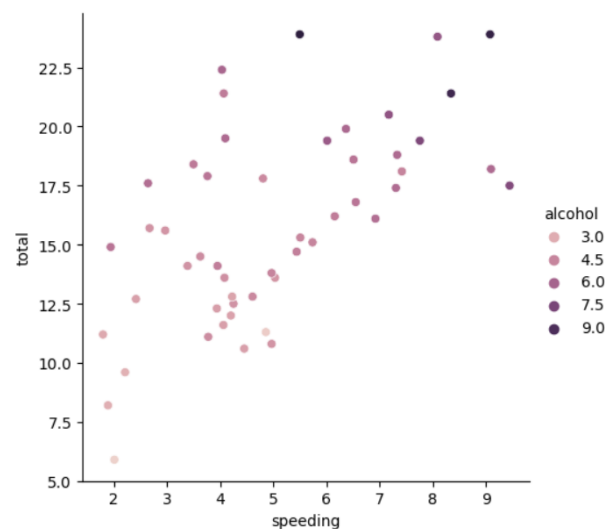
```
Out[13]: <seaborn.axisgrid.FacetGrid at 0x1c9537cfe90>
```



inference: this displot is used to represent data in histogram form that shows persons which have not previous accidents

```
In [16]: sns.relplot(x="speeding", y="total", data=dt, hue="alcohol")
```

```
Out[16]: <seaborn.axisgrid.FacetGrid at 0x1c955a25cd0>
```

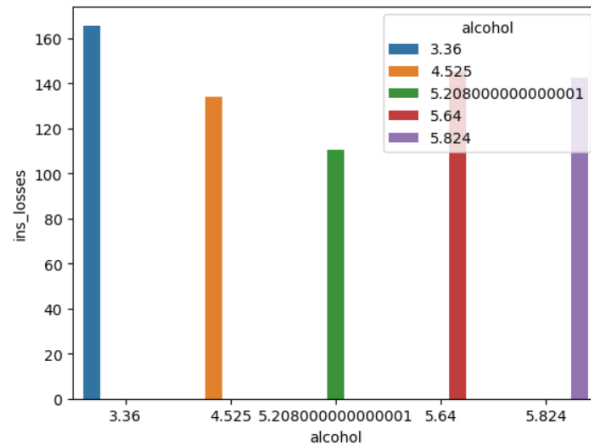


inference through this we can observe that the no of accidents are increased as the person is speeding and drunk

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```
In [26]: sns.barplot(x="alcohol",y="ins_losses",data=x,hue="alcohol")
```

```
Out[26]: <Axes: xlabel='alcohol', ylabel='ins_losses'>
```

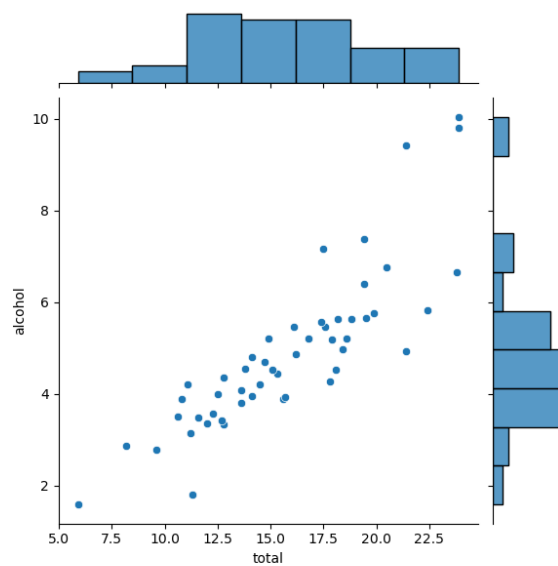


**inference : the simple relation between consuming alchol and insurence losses**

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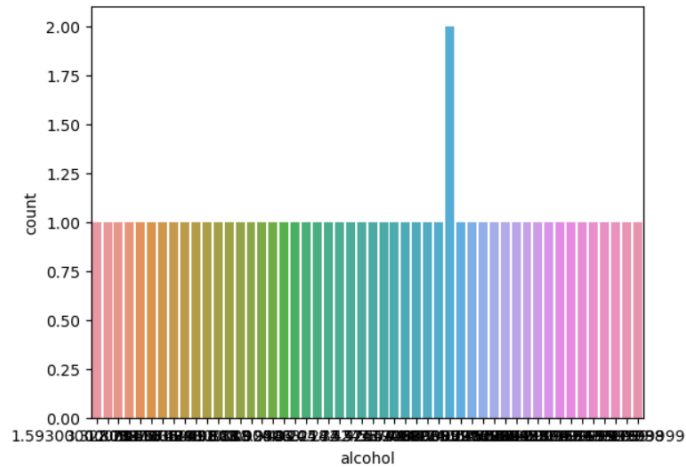
```
In [30]: sns.jointplot(x="total",y="alcohol",data=dt)
```

```
Out[30]: <seaborn.axisgrid.JointGrid at 0x1c962472910>
```



**inference:the above plot shows the replation of alcohol consuming and thtalm accidents in a breif way**

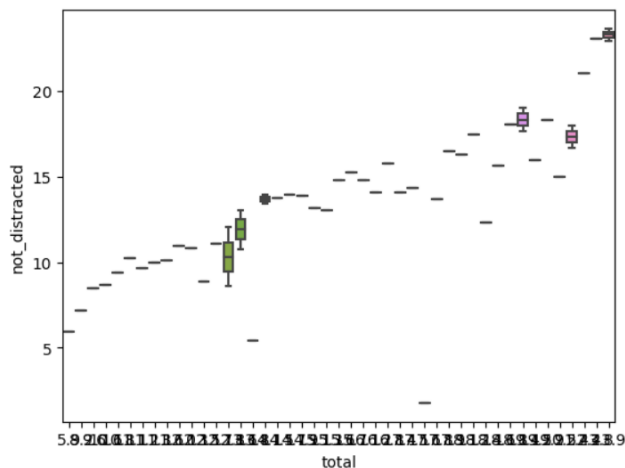
```
In [38]: sns.countplot(x="alcohol", data=dt)
Out[38]: <Axes: xlabel='alcohol', ylabel='count'>
```



inference :cant find meaning ful information form this dataset suong count plot as datset is not in that manner

```
In [55]: sns.boxplot(x="total", y="not_distracted", data=dt)
Out[55]: <Axes: xlabel='total', ylabel='not_distracted'>
```

```
In [55]: sns.boxplot(x="total", y="not_distracted", data=dt)
Out[55]: <Axes: xlabel='total', ylabel='not_distracted'>
```



inference :as there are more base points we couldnt get the perect differentiation but we can conclude that there are outliers

```
In [58]: corr=dt.corr()  
corr
```

C:\Users\vedap\AppData\Local\Temp\ipykernel\_28880\3482319017.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=dt.corr()

Out[58]:

	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

```
In [60]: sns.heatmap(corr,annot=True,cmap="YlGnBu")
```

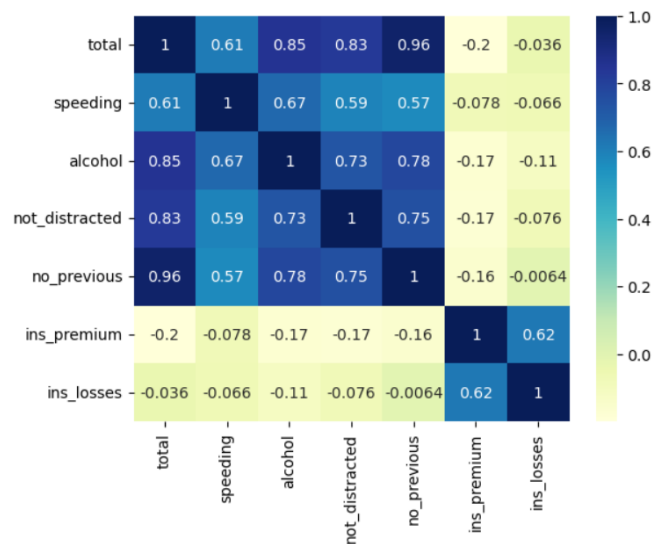
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```
In [60]: sns.heatmap(corr,annot=True,cmap="YlGnBu")
```

Out[60]: <Axes: >



**inference :**the heat map gives the easy understanding of the data through thw intencity of the colours