# ▾ P.SIVA KARTHIK

# REDDY

# 21BAI1850

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

```python
from google.colab import drive
drive.mount('/content/drive')
```

```python
df = pd.read_csv("/content/drive/MyDrive/AIML Course/car_crashes.csv")
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     |    |

```python
df.tail()
```

|    | total | speeding | alcohol | not_distracted | no_previous | ins_premium | ins_losses | a |
|----|-------|----------|---------|----------------|-------------|-------------|------------|---|
| 46 | 12.7  | 2.413    | 3.429   | 11.049         | 11.176      | 768.95      | 153.72     |   |
| 47 | 10.6  | 4.452    | 3.498   | 8.692          | 9.116       | 890.03      | 111.62     |   |
| 48 | 23.8  | 8.092    | 6.664   | 23.086         | 20.706      | 992.61      | 152.56     |   |
| 49 | 13.8  | 4.968    | 4.554   | 5.382          | 11.592      | 670.31      | 106.62     |   |
| 50 | 17.4  | 7.308    | 5.568   | 14.094         | 15.660      | 791.14      | 122.04     |   |

```python
sb.scatterplot(x = "total", y = "speeding", data = df)
```
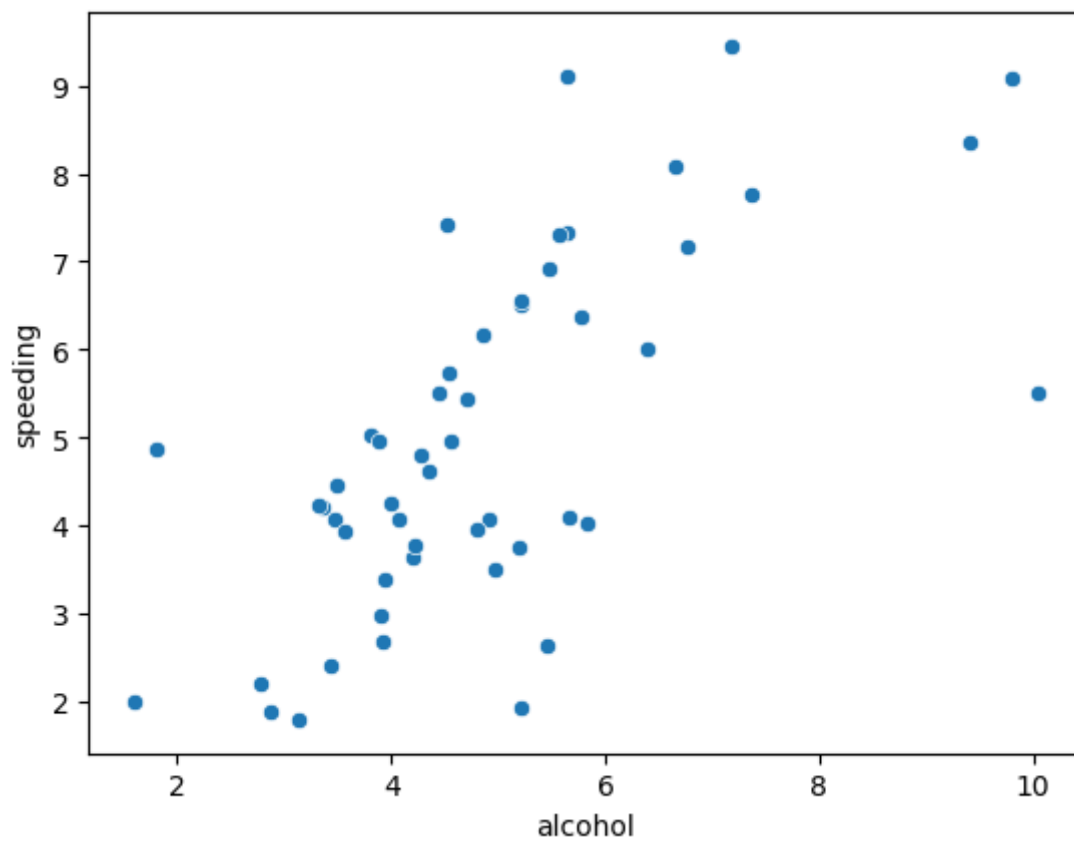
```
<Axes: xlabel='total', ylabel='speeding'>
```
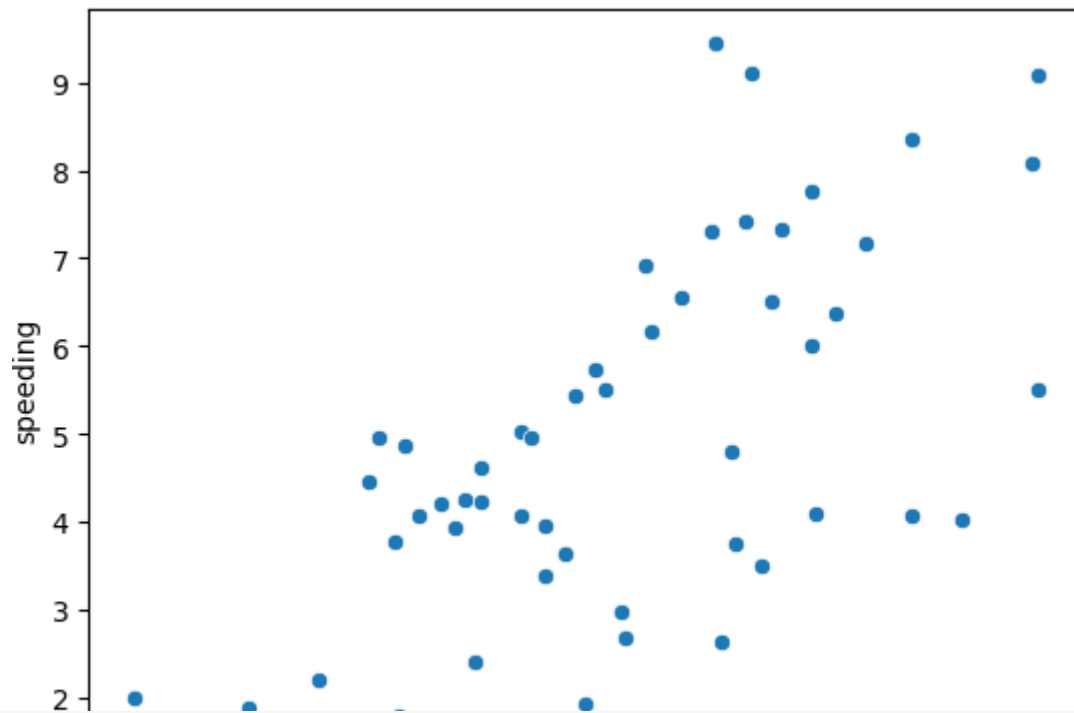


```
sb.scatterplot(x = "alcohol", y = "speeding", data = df)
```
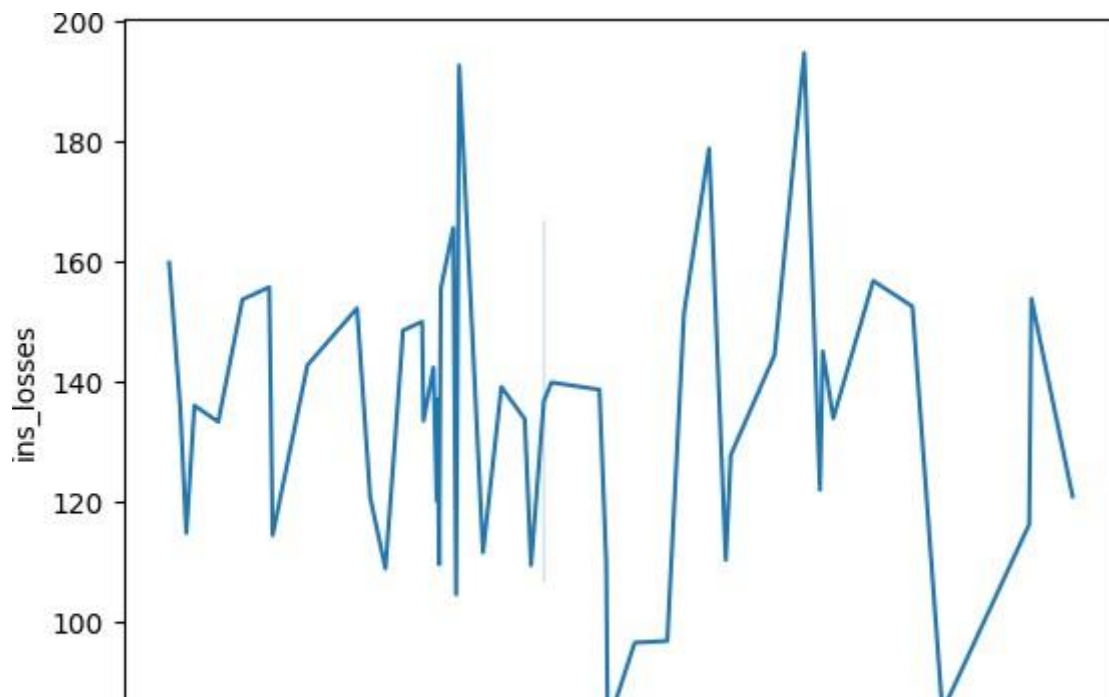
```
<Axes: xlabel='alcohol', ylabel='speeding'>
```



```
sb.lineplot(x = "speeding", y = "ins_losses", data = df)
```
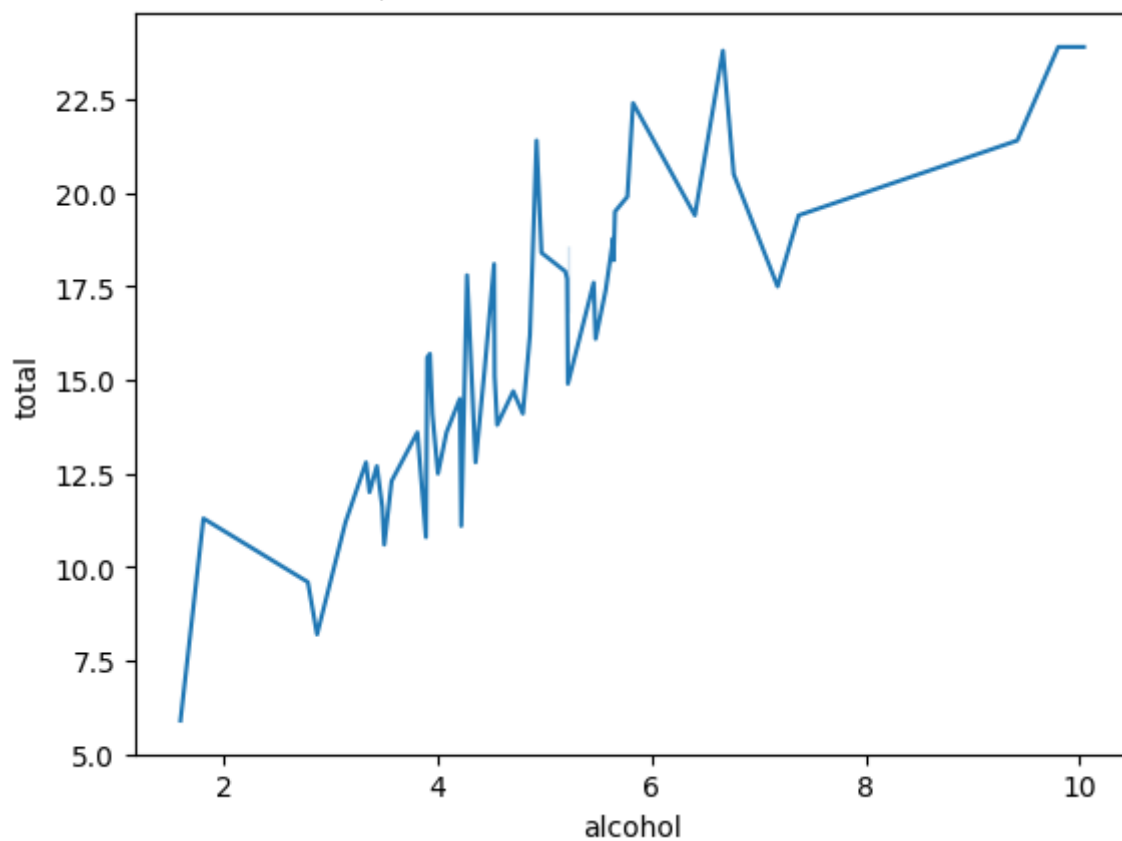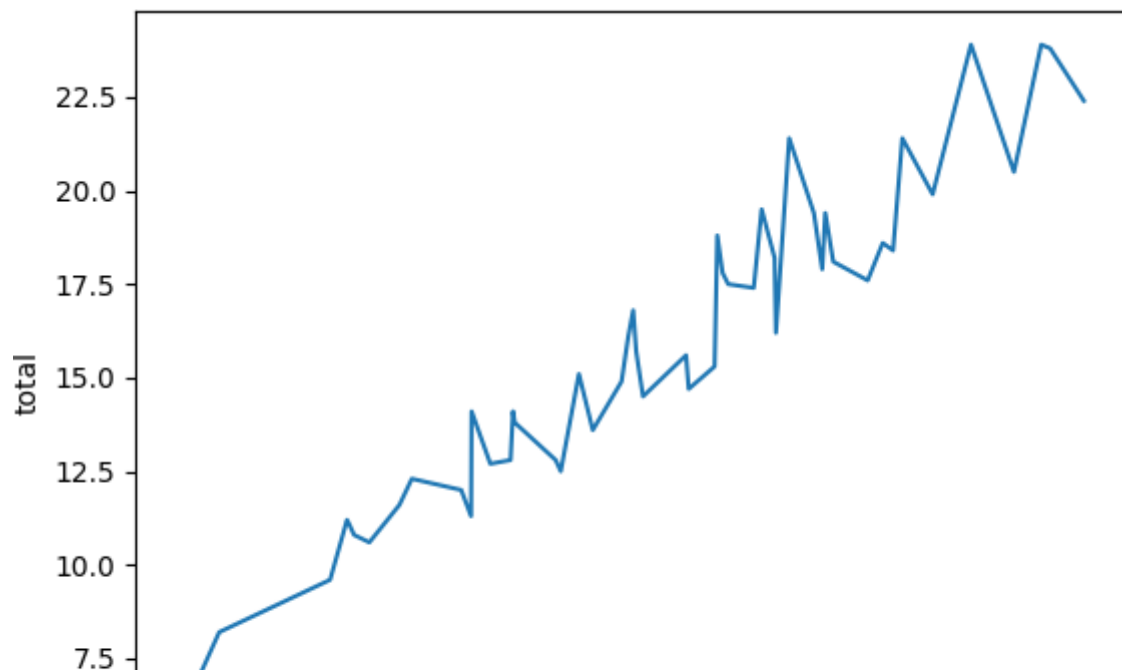
```
<Axes: xlabel='speeding', ylabel='ins_losses'>
```



```
sb.lineplot(x = "alcohol", y = "total", data = df)
```
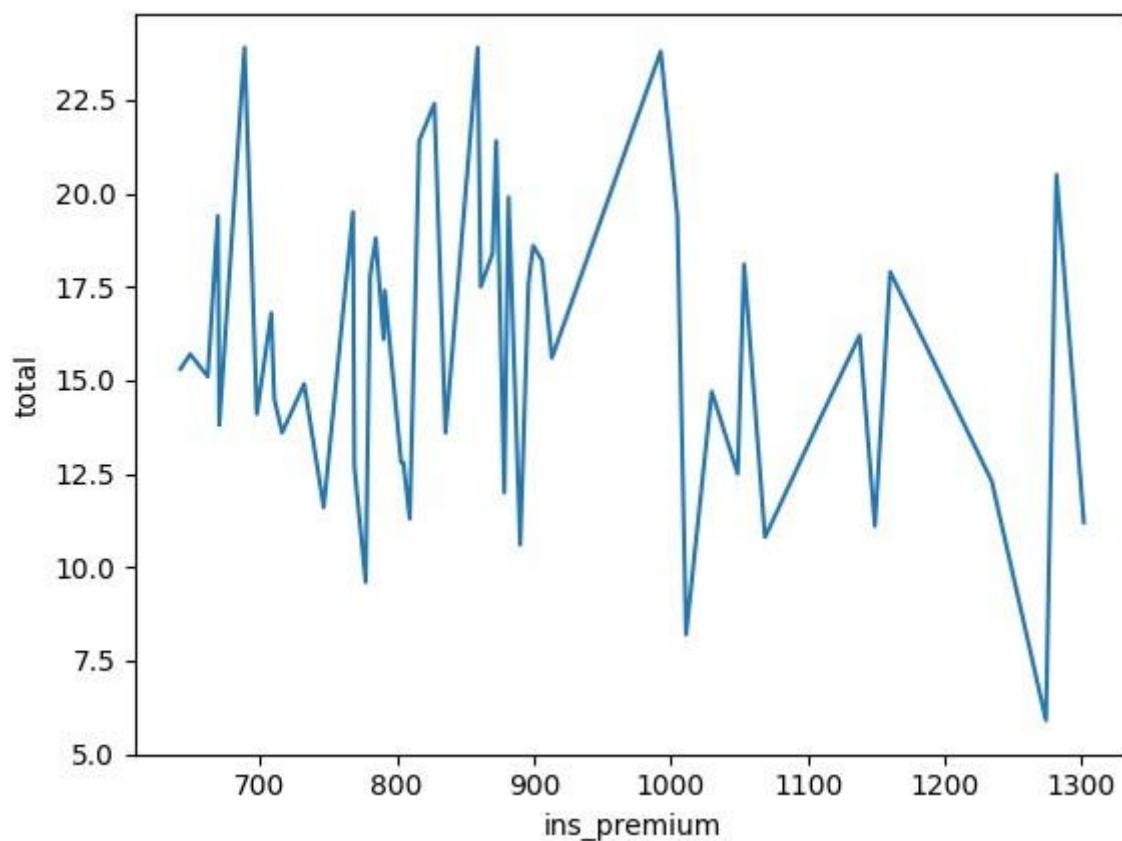
```
<Axes: xlabel='alcohol', ylabel='total'>
```



```
sb.lineplot(x = "no_previous", y = "total", data = df)
```
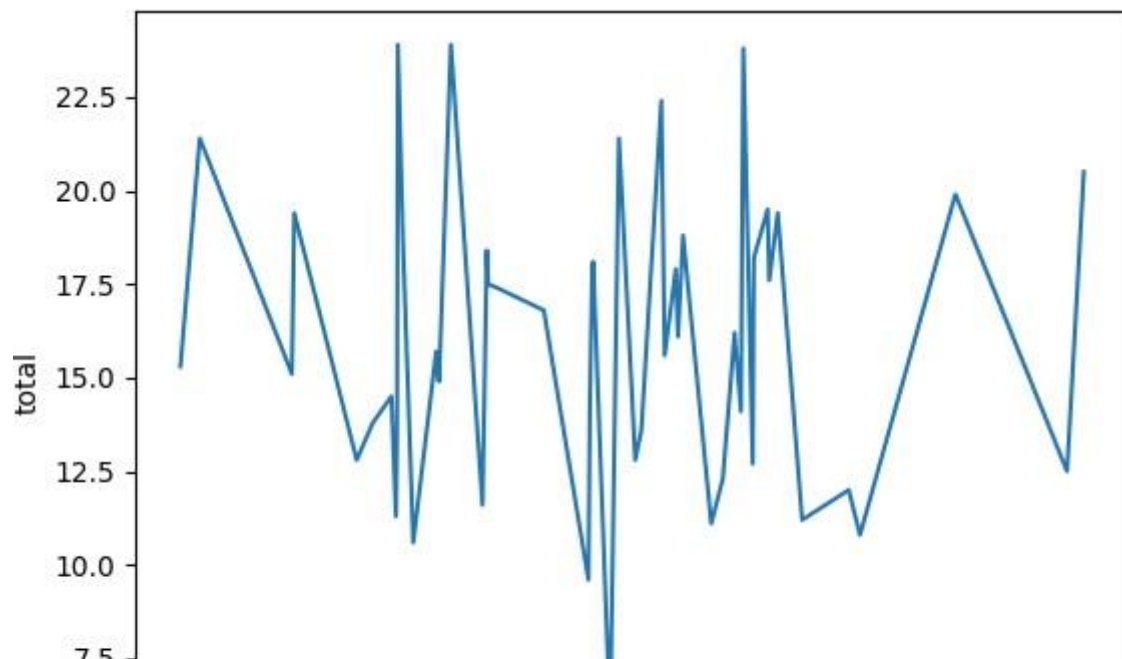
<Axes: xlabel='no_previous', ylabel='total'>



```
sb.lineplot(x = "ins_premium", y = "total", data = df)
```

<Axes: xlabel='ins_premium', ylabel='total'>
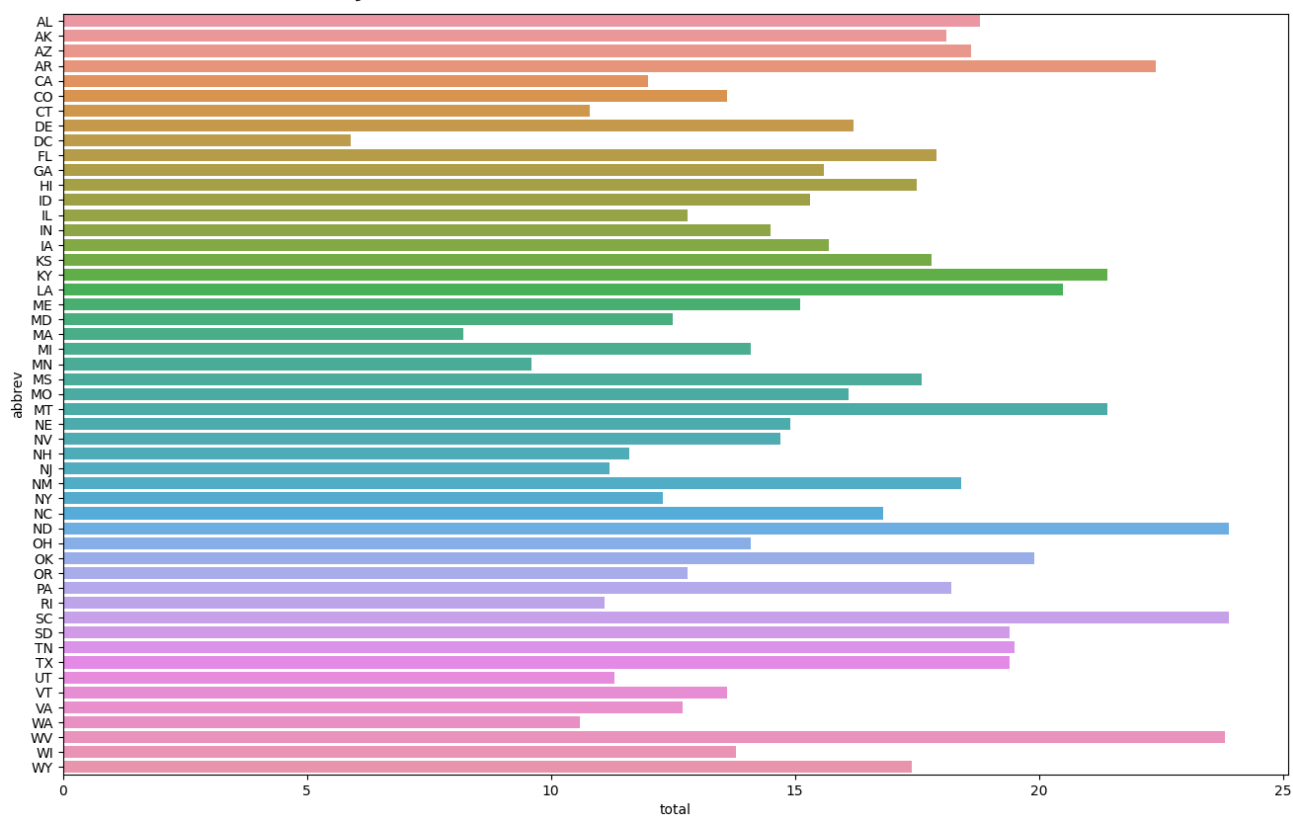


```
sb.lineplot(x = "ins_losses", y = "total", data = df)
```

<Axes: xlabel='ins_losses', ylabel='total'>
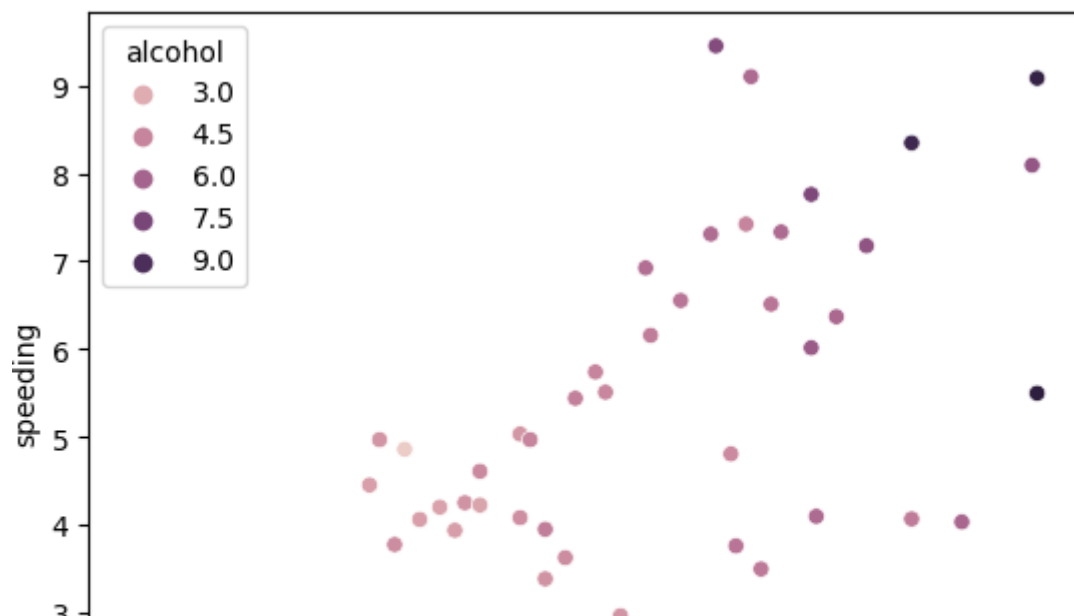


```
plt.subplots(figsize=(16, 10))
sb.barplot(data = df, x = 'total', y = 'abbrev')
```
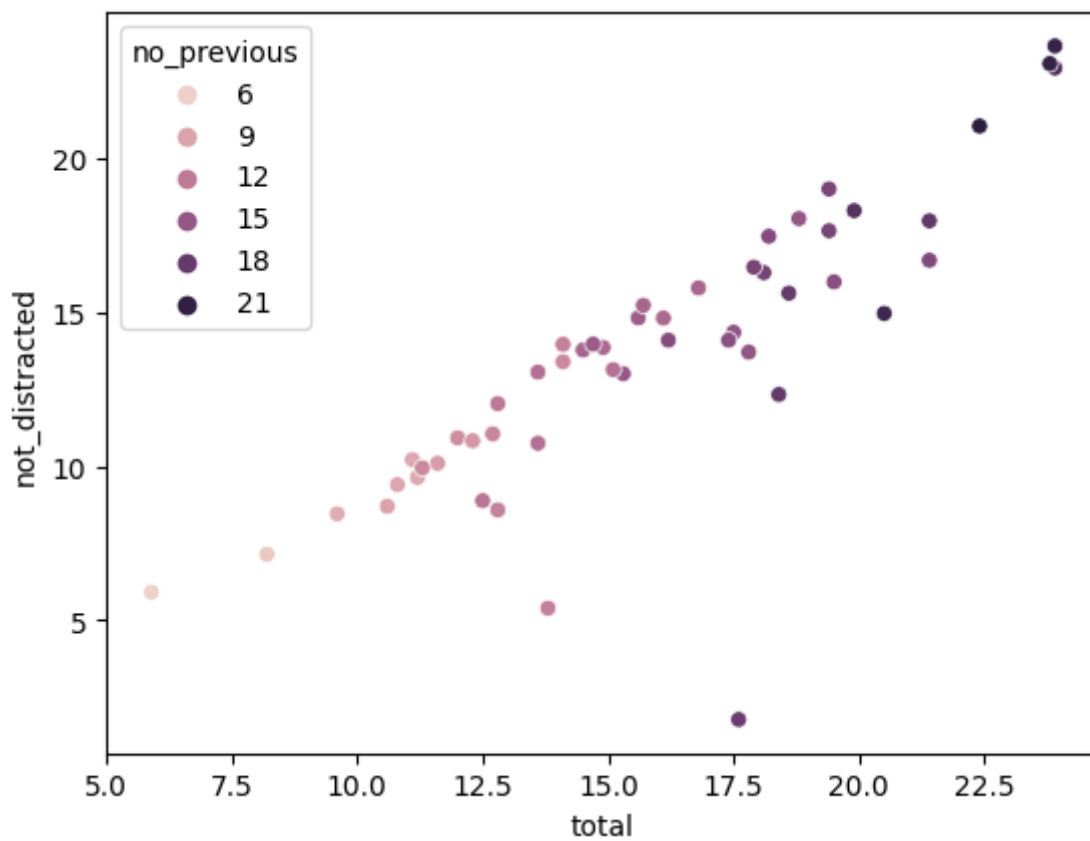
<Axes: xlabel='total', ylabel='abbrev'>



```
sb.scatterplot(x = "total", y = "speeding", data = df, hue = 'alcohol')
```
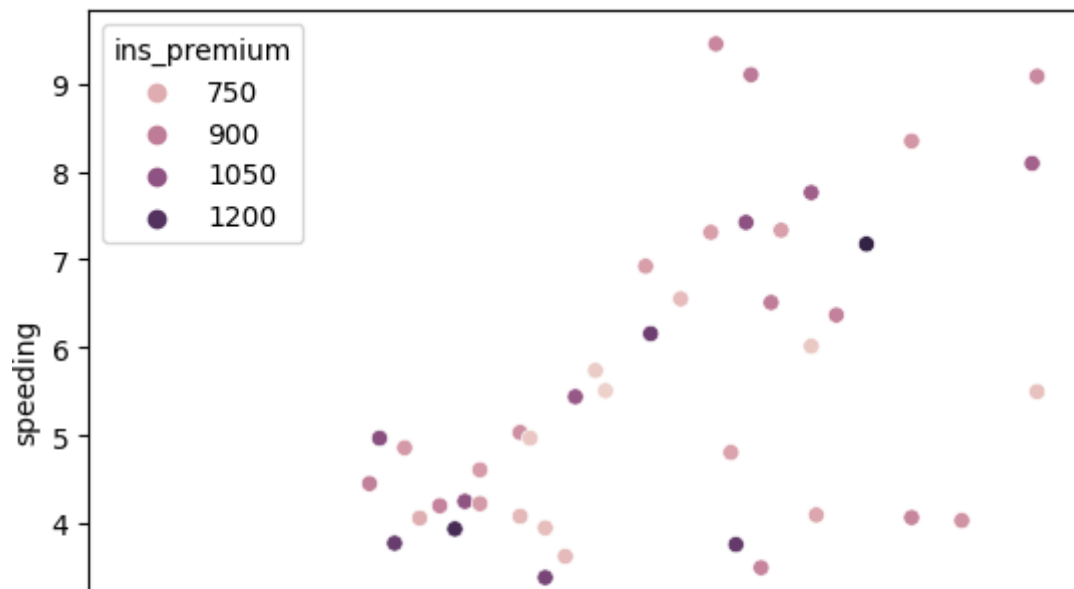
```
<Axes: xlabel='total', ylabel='speeding'>
```



```
sb.scatterplot(x = "total", y = "not_distracted", data = df, hue = 'no_previous')
```

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

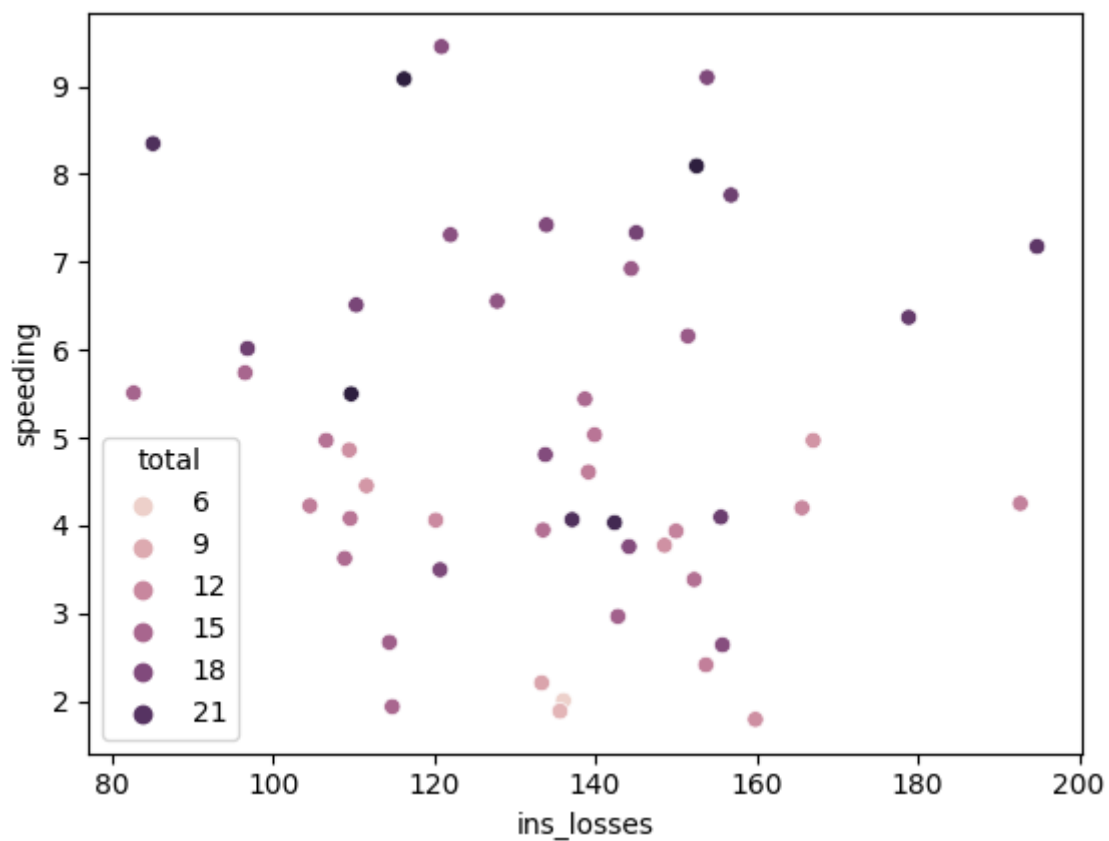

```
sb.scatterplot(x = "total", y = "speeding", data = df, hue = 'ins_premium')
```

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

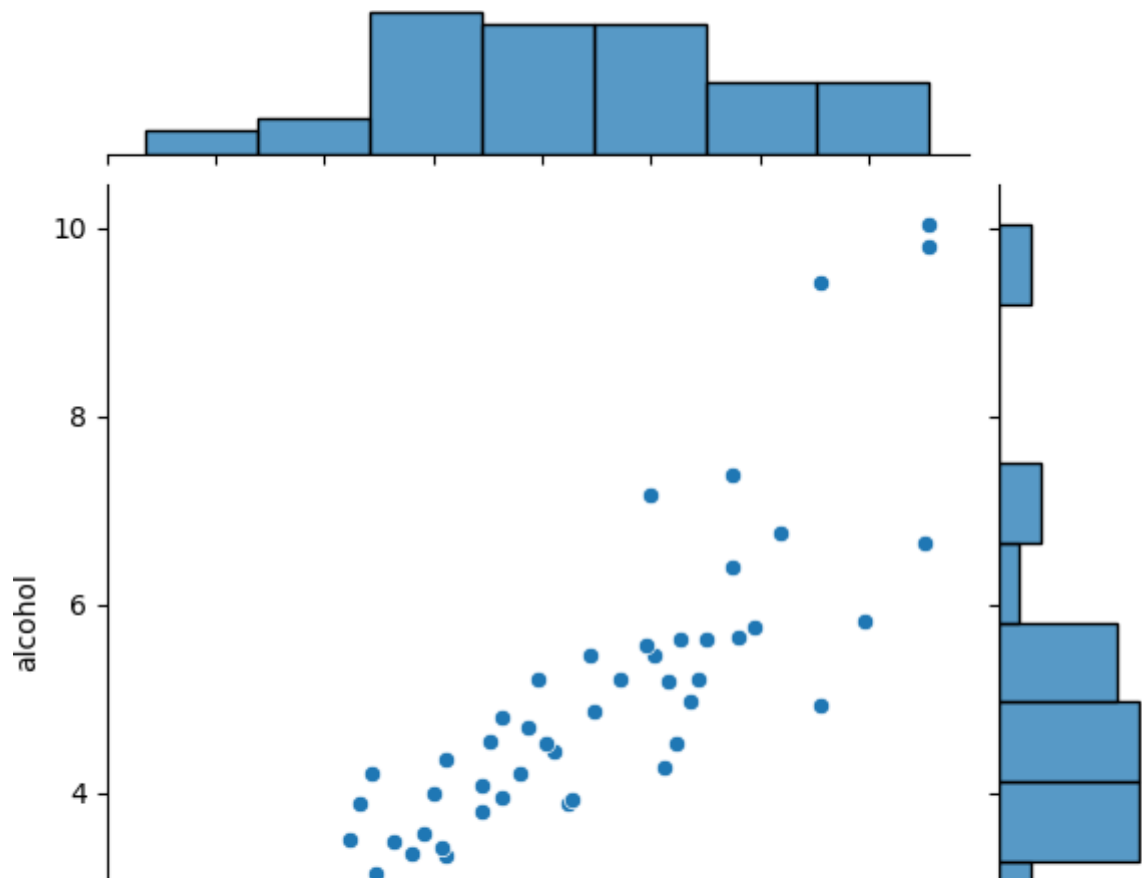

```
sb.scatterplot(x = "ins_losses", y = "speeding", data = df, hue = 'total')
```

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



```
sb.jointplot(x = 'total', y = 'alcohol', data = df)
```

```
<seaborn.axisgrid.JointGrid at 0x7b8bb0e43550>
```
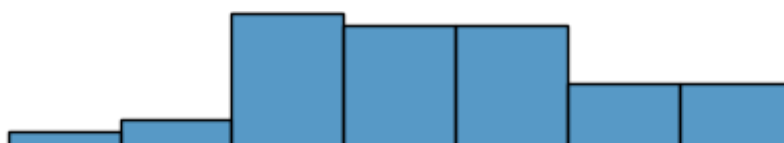


```
sb.jointplot(x = 'total', y = 'speeding', data = df)
```

<seaborn.axisgrid.JointGrid at 0x7b8bb0e436a0>
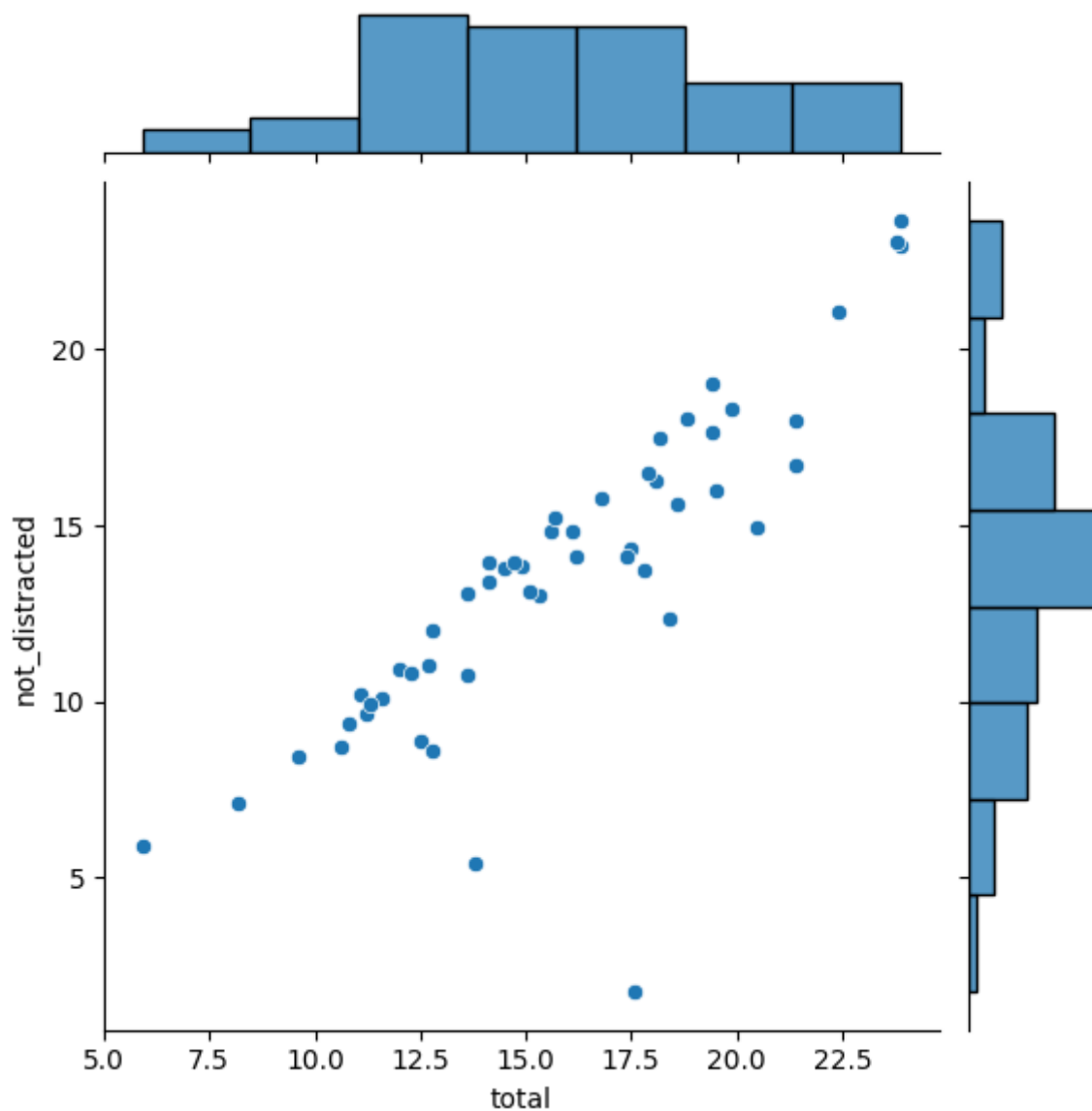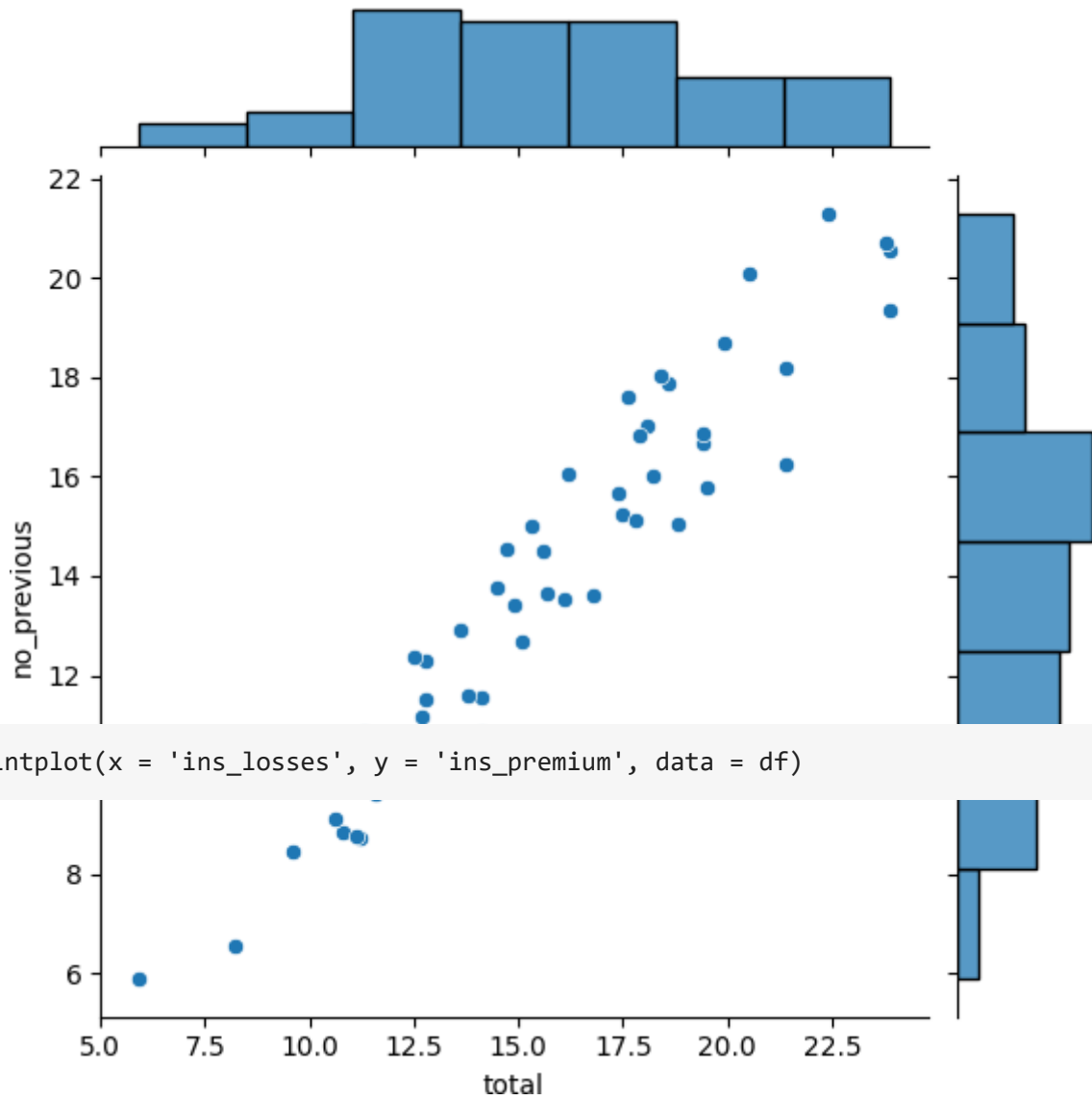


```
sb.jointplot(x = 'total', y = 'not_distracted', data = df)
```

<seaborn.axisgrid.JointGrid at 0x7b8bb0d79330>



```
sb.jointplot(x = 'total', y = 'no_previous', data = df)
```

<seaborn.axisgrid.JointGrid at 0x7b8bb0dcc700>



```
sb.jointplot(x = 'ins_losses', y = 'ins_premium', data = df)
```

```
<seaborn.axisgrid.JointGrid at 0x7b8bb0985090>
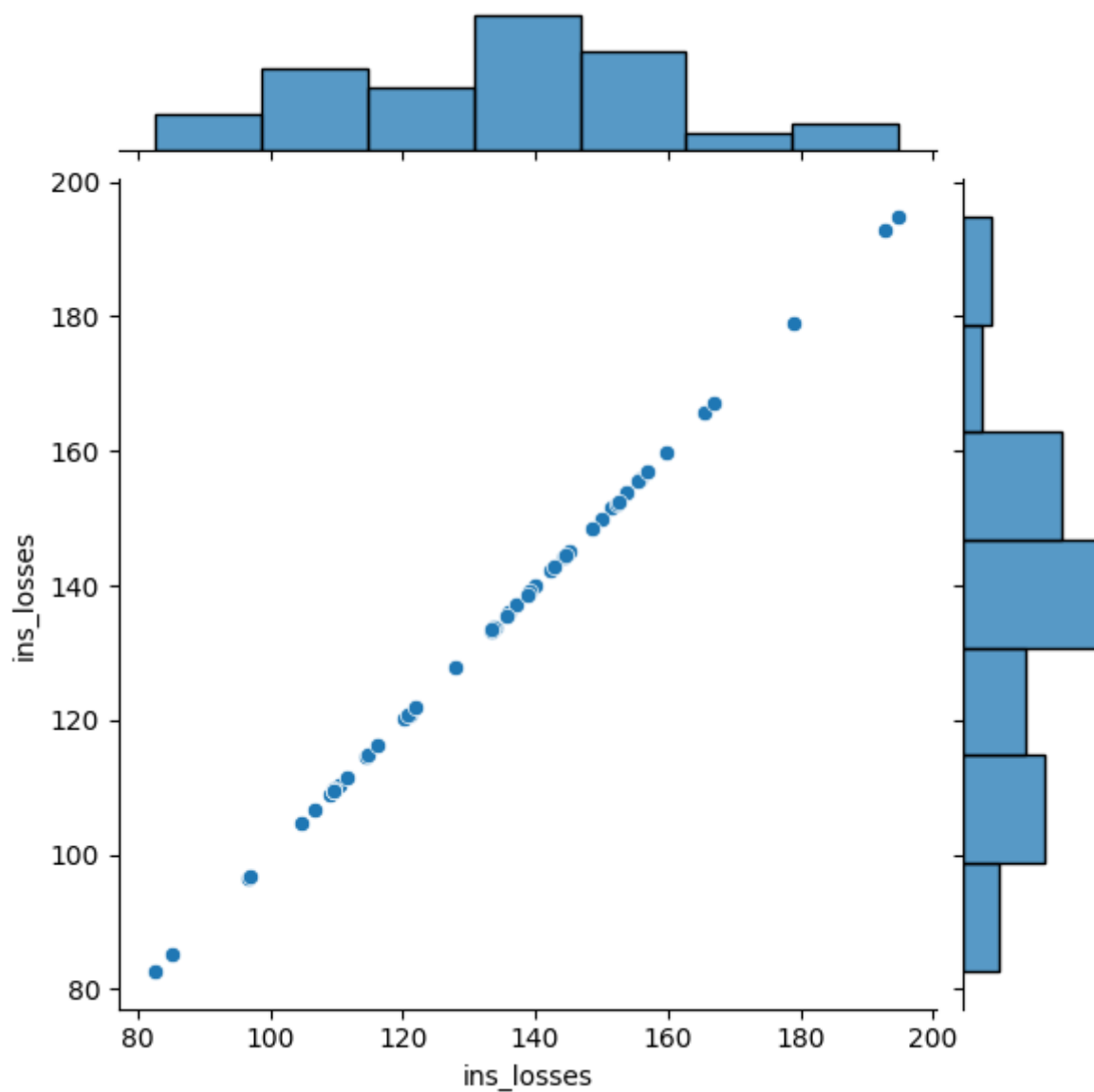```

```
sb.jointplot(x = 'ins_losses', y = 'ins_losses', data = df)
```

```
<seaborn.axisgrid.JointGrid at 0x7b8bb0985de0>
```
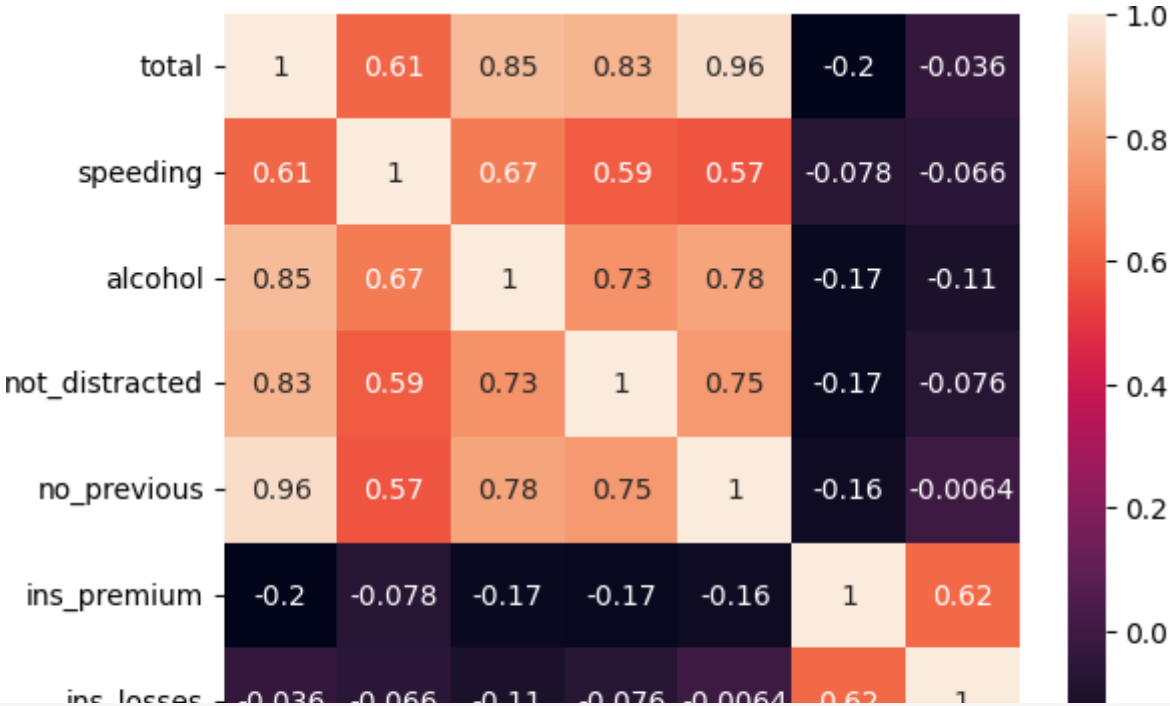


```
corr = df.corr()
```

```
<ipython-input-31-45893e33df67>:1: FutureWarning: The default value of numeric_only
  corr = df.corr()
```

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

```
<Axes: >
```



|  | total | speeding | alcohol | not_distracted | no_previous | ins_premium | ins_losses |
|---|---|---|---|---|---|---|---|
| total | 1 | 0.61 | 0.85 | 0.83 | 0.96 | -0.2 | -0.036 |
| speeding | 0.61 | 1 | 0.67 | 0.59 | 0.57 | -0.078 | -0.066 |
| alcohol | 0.85 | 0.67 | 1 | 0.73 | 0.78 | -0.17 | -0.11 |
| not_distracted | 0.83 | 0.59 | 0.73 | 1 | 0.75 | -0.17 | -0.076 |
| no_previous | 0.96 | 0.57 | 0.78 | 0.75 | 1 | -0.16 | -0.0064 |
| ins_premium | -0.2 | -0.078 | -0.17 | -0.17 | -0.16 | 1 | 0.62 |
| ins_losses | -0.036 | -0.066 | -0.11 | -0.076 | -0.0064 | 0.62 | 1 |

```
sb.pairplot(df)
```

`<seaborn.axisgrid.PairGrid at 0x7b8bafff7e50>`