

Data Capstone Project

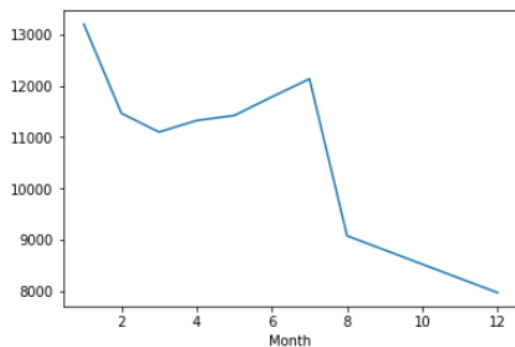
Part 1- Analysis of 911 Call data from Montgomery County, Pennsylvania

Dataset source: <https://www.kaggle.com/mchirico/montcoalert>

General Observations:

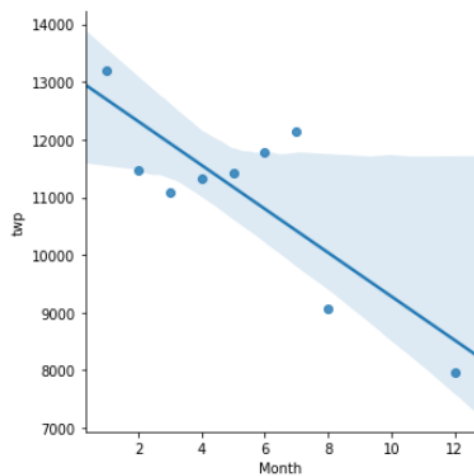
- In general, calls to most number of calls to 911 were made during the start and mid of year.
- Also, the least number of calls were made in the month of December.

```
<matplotlib.axes._subplots.AxesSubplot at 0x1ab22ec41d0>
```



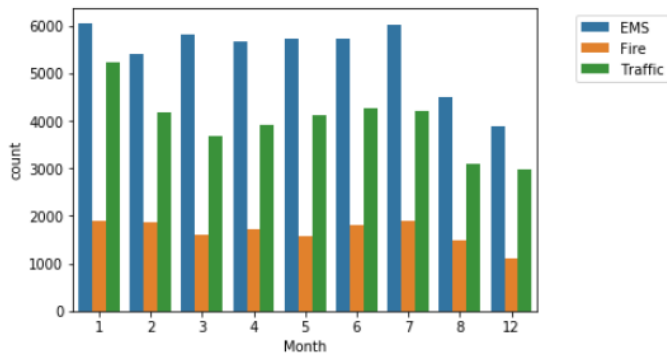
- However, an LM Plot on the data reveals that the data is not complete.

```
<seaborn.axisgrid.FacetGrid at 0x1ab23507518>
```



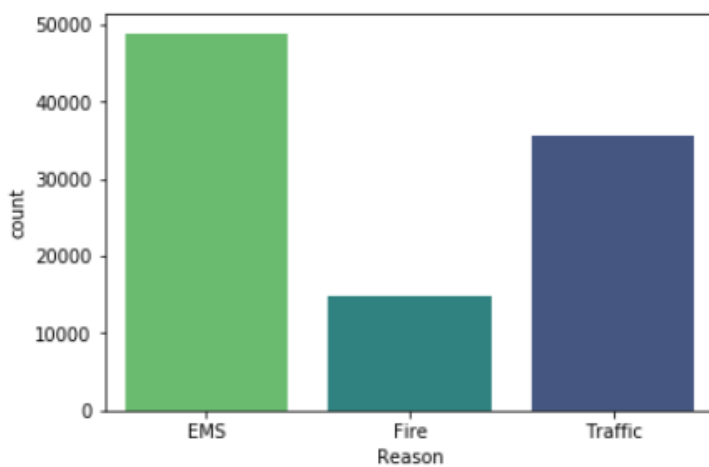
- Upon closer examination, we can see that the dataset is missing the months September (9), October (10) and November (11)

```
<matplotlib.legend.Legend at 0x1ab24c60ef0>
```



- Emergency Medical Services (EMS) drove the most number of 911 calls followed by Traffic:

```
<matplotlib.axes._subplots.AxesSubplot at 0x21570eb6240>
```



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- In accordance with logic, Traffic driven 911 calls were highest on the first three days of the week: Monday, Tuesday and Wednesday
- Similarly, EMS driven calls were highest on Fridays.

```
<matplotlib.legend.Legend at 0x1ab22e5b940>
```

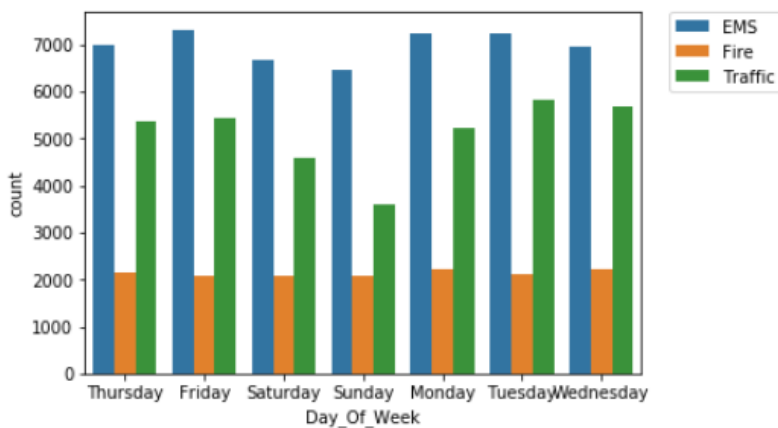
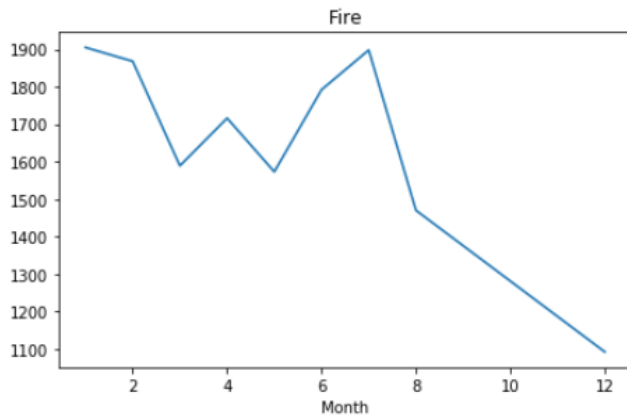


Figure 2

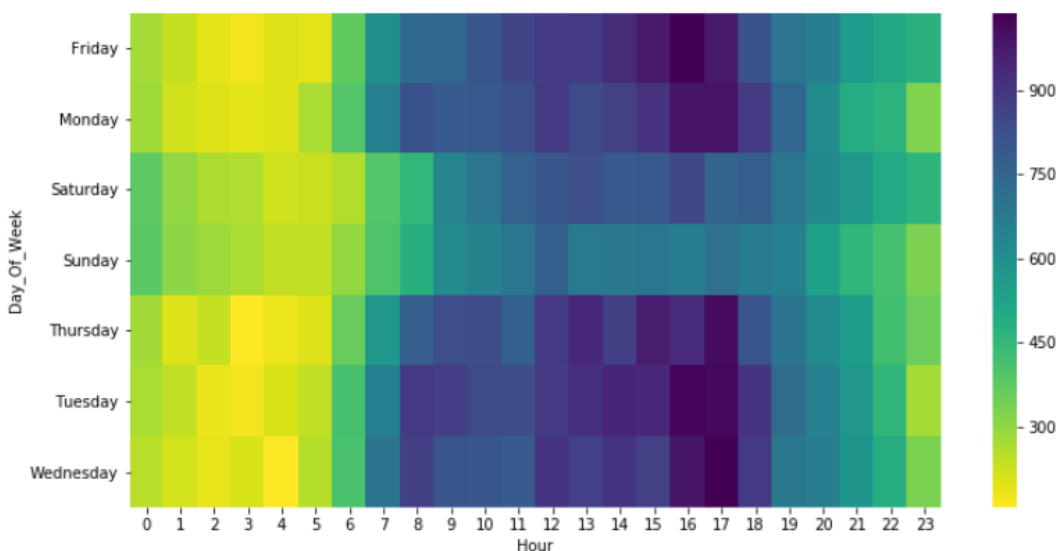
- As expected, the calls to 911 due to fire peaked during the summer month of July



Observations from heatmap plotting Hour vs Day of Week

- The highest numbers of calls were made during weekdays from 1600 to 1700 hours.
- Expectedly, the number of calls decreases during weekends.
- The count of calls starts decreasing from 2100 hours and attains a low at 0300 and 0400 hours before picking up from 0500 hours.

<matplotlib.axes._subplots.AxesSubplot at 0x1ab2a7bb5f8>



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Observations from clustermap plotting Hour vs Day of Week

- The clustermap apart from clustering data, provides the count of calls which is an improvement over heatmaps.
- The results we see in clustermap follow our established trends:
- The first three days of the week starting from Monday are clustered together and weekends are clustered separately.
- The highest amount of call occurs from 1600 to 1700 hours on the weekdays.
- Very low calls take place from 2300 to 0600 hours which indicates that people are peacefully asleep.

