Predictive Modeling Exercises

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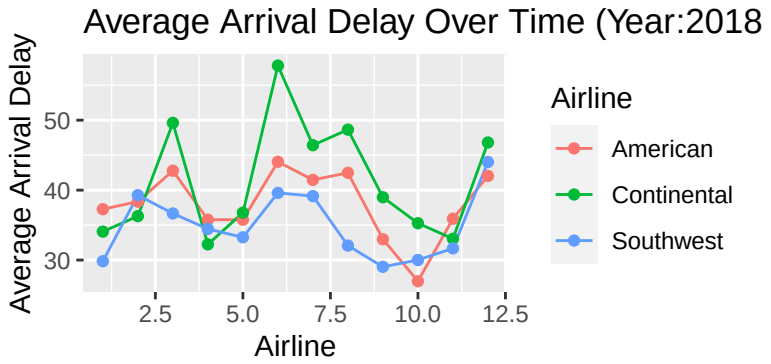
Question 1

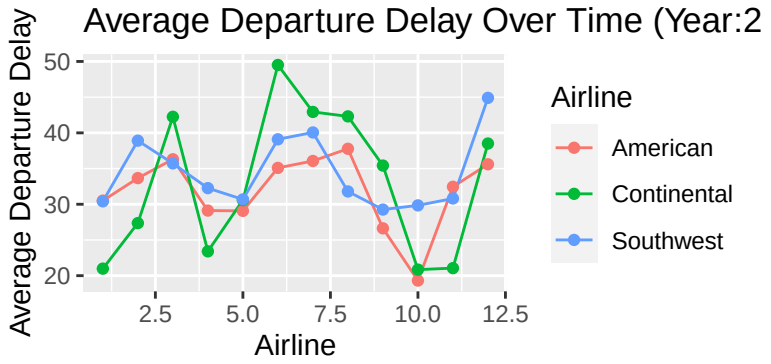
Question 2

The figures below portray a story about the flights arriving in and departing from the Austin Bergstrom International Airport in 2008. We looked at traits of flights and airlines from a few different perspectives to convey an accurate image of what the airport and travelers experienced that year.

```
## `summarise()` regrouping output by 'Month' (override with `.groups` argument)
```




```
## `summarise()` regrouping output by 'Month' (override with `.groups` argument)
```

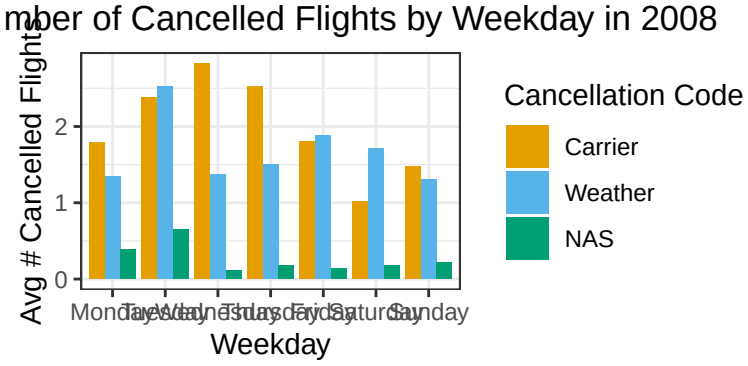


The line graph figures above are a time series analysis of how the length of flight delays changes throughout the year 2018. The graphs are relatively similar and have peaks during similar times. They are separated by arriving and departing flights, essentially whether the plane was late coming in or late coming out. It is to be expected that a change in one would impact an airport's schedule thus resulting in changes in the other. For both graphs there are peaks in months like March, June, and December. It is easy to deduce the cause of that could be holidays or related to school schedules like Spring Break. For a more concrete picture further analysis should be conducted. The

airlines graphed here have more flights than the average airline and the delays are considered long delays because they are in the 75th percentile.

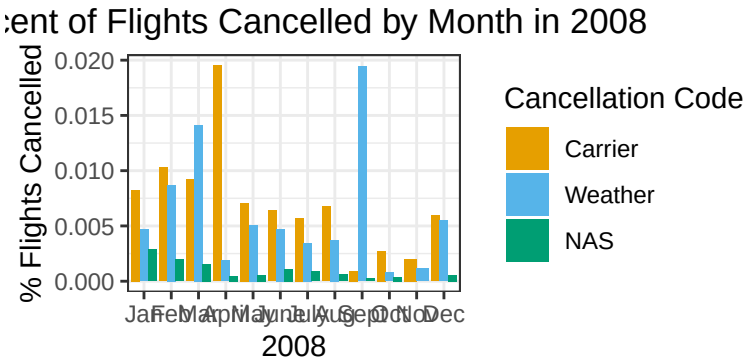
As we transition our focus from how flights are delayed for longer periods of time seasonally, we can also look at the different types of cancellations and delays. The graph below enables us to compare three types of cancellation codes: Carrier, Weather, and NAS. This plot is clearly able to show that NAS delays do not account for many delays and truly do not compare to weather or carrier delays.

```
## `summarise()` regrouping output by 'CancellationCode' (override with `.groups` argument)
```



In the graph below, we look at a similar trend but over months so we can look at a seasonal picture of the flights. Some interesting anomalies are found in April and September. Based on knowledge of seasonal changes in weather, one could conclude that the significant flux in weather delays in September could be explained by hurricane season. As for April, carrier delays could increased significantly by _____.

```
## `summarise()` regrouping output by 'CancellationCode' (override with `.groups` argument)
```




```
##############################    GEO PLOT    ##############################
```

Question 3

Question 4

Question 5

Question 6