Time Series Group Project

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For our group project we want to focus on airline travel statistics - specifically total number of flights and delays across the United states. To do this we will use data from the Bureau of Transportation [website](https://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp). The website allows you to download data by month, by airport, and includes dimensions surrounding flights leaving from those airports. This includes total flights, delays, cancellations and more.

Using this data we can focus on creating forecasts for different dimensions of the data, as well as different airports. We can work on forecasting both how the airline industry will trend in the future - allowing airlines to allocate resources effectively. We can do this both on a national level as well as segment by airport or airline. We can also try and forecast delays to see if there are any trends that airlines could account for.

Taking into consideration the nature of our dataset, we are expecting to observe seasonality in the data, especially during holidays ( summer break, winter break, christmas, new years, etc.). In addition, we foresee a drop of flights and delays during the pandemic (2019 Q4 - 2021 Q4) when compared to previous years as well as a trend and multiplicative seasonality that follows the level of outbreak/recovery of Covid-19 in the US.