



# Peak x United Airlines

## Example insight report

23 September 2020

### Purpose

To demonstrate how to use an R Markdown document with the Airlines data set for new starters in the Data Science team.

### Executive Summary

To summarise:

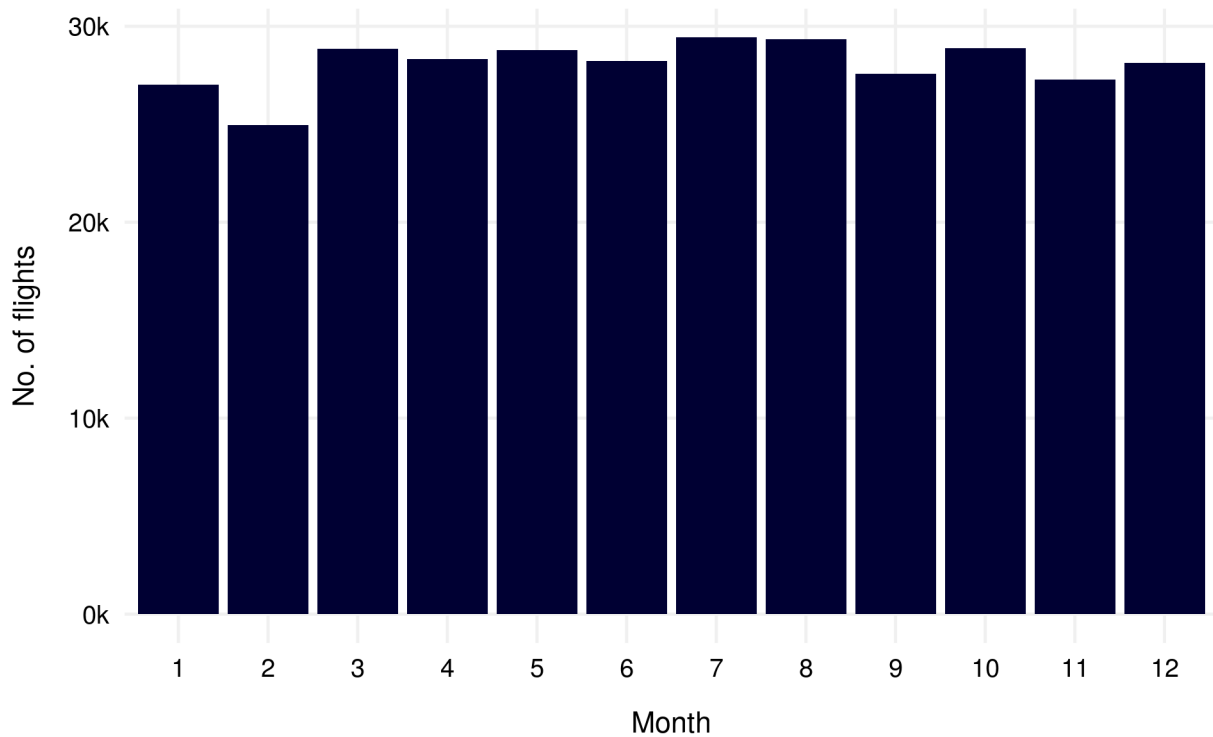
- R Markdown is a great way to turn code into PDFs!
- Make sure you make the most of functions in the peaktheme package as it formats charts in much fewer lines of code
- Ensure that the document you end up making is customer ready; check spelling and grammar, make sure no weird messages have been printed from the code, and make your charts look worthy of the marketing team



## Number of flights

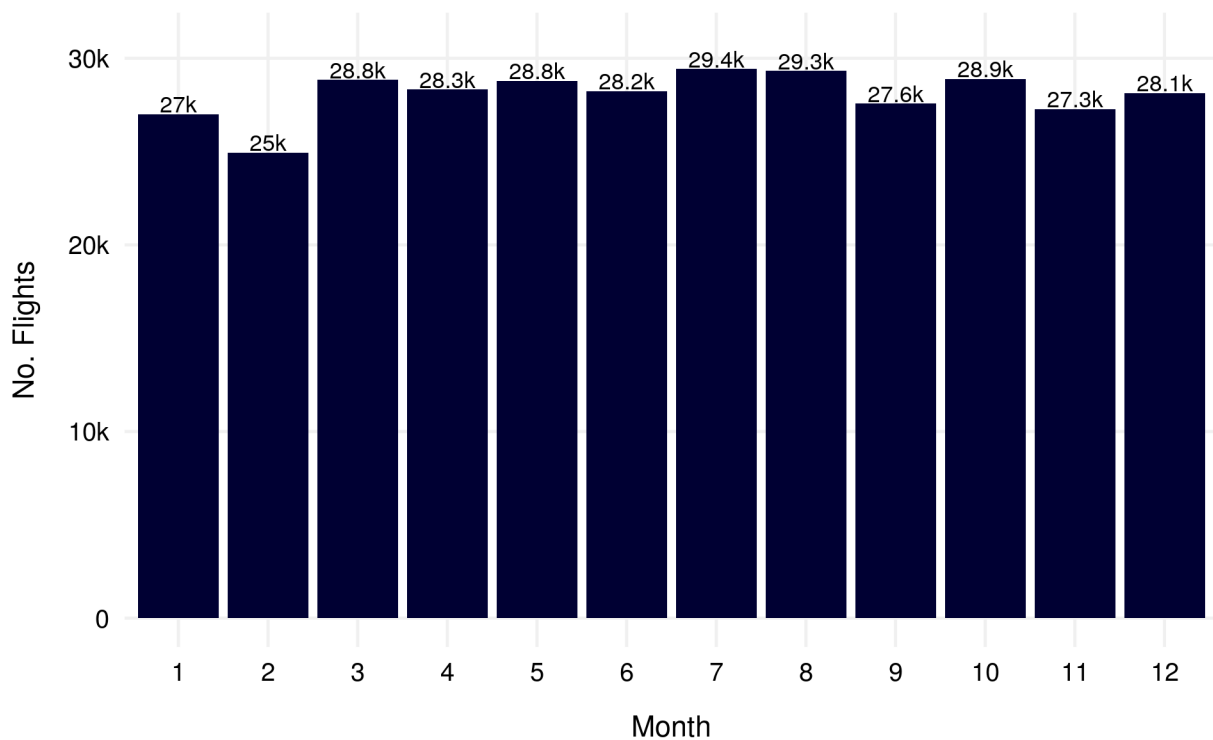
### Building a barchart from scratch using ggplot2

There is a total of 336.8k flights included in the data set. The chart below shows the total number of flights each month across all airlines. There is a relatively consistent number of flights each month, with the average monthly number of flights being 28.1k.



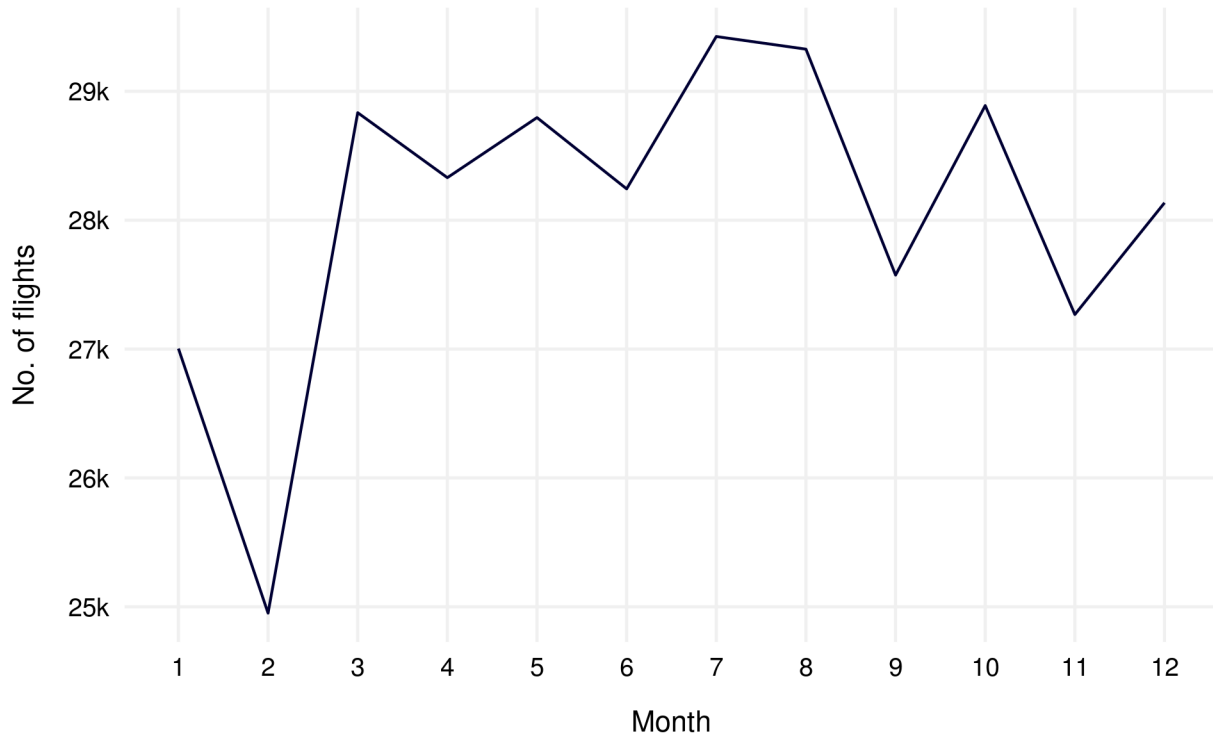
### Building a barchart using the barchart function in peaktheme

The chart below is the exact same as the one above! You can see it's also added in text annotations on the barchart which is nice.



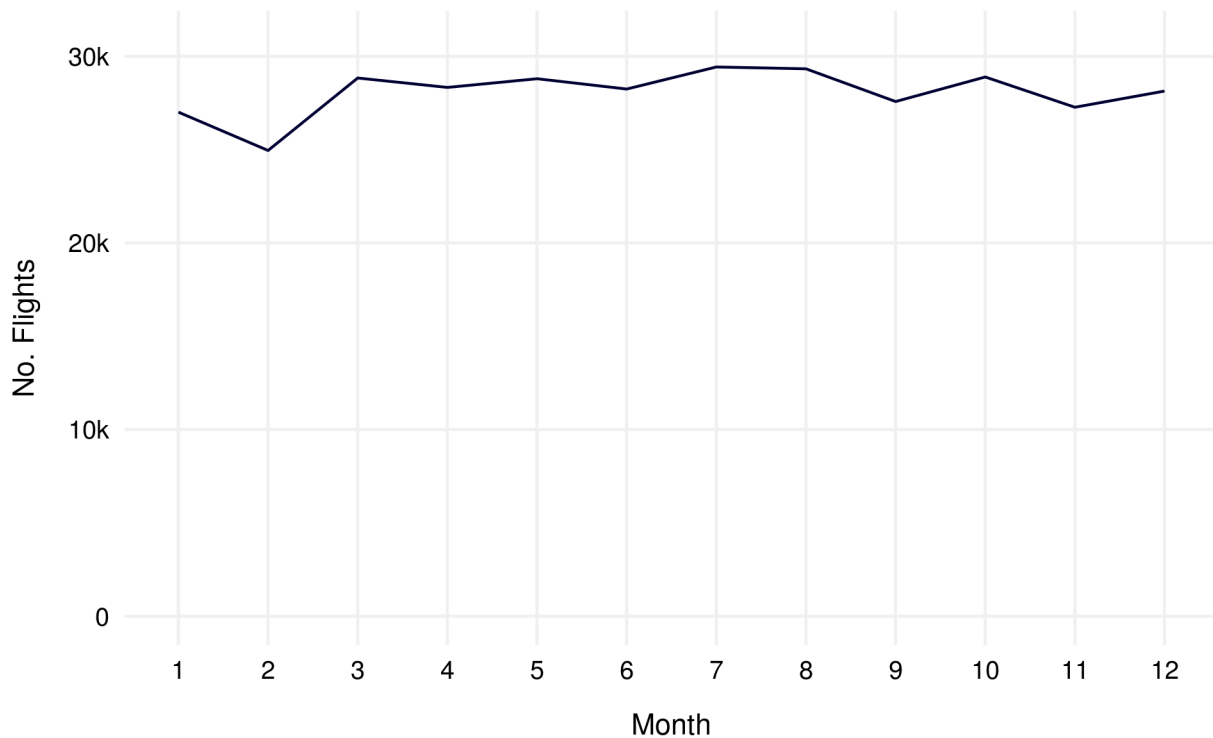
## Building a linechart from scratch using ggplot2

Fancy making a line chart instead? This is how you make one from scratch in ggplot2.



## Building a line chart using linechart function in peaktheme

The chart below is the exact same as the one above! You can see the y-axis starts from 0; in some instances you may need to manually change this though by adding limits on the y-axis using `scale_y_continuous(limits = ...)`.

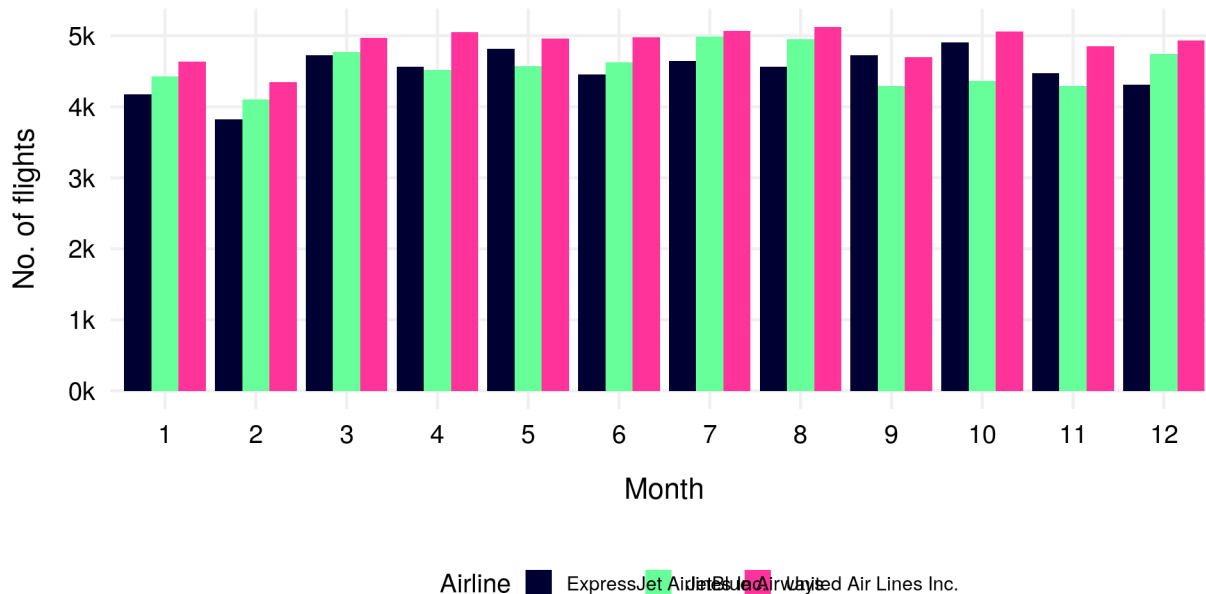


## Number of flights by airline

United Airlines would like to see how their number of flights varies vs. their two main competitors, JetBlue Airways and ExpressJet Airlines.

### Bar chart example (ggplot2 from scratch)

The chart below shows the monthly number of flights by airline. ggplot2 is weird and the legend looks pretty horrible as a default when you knit the file!



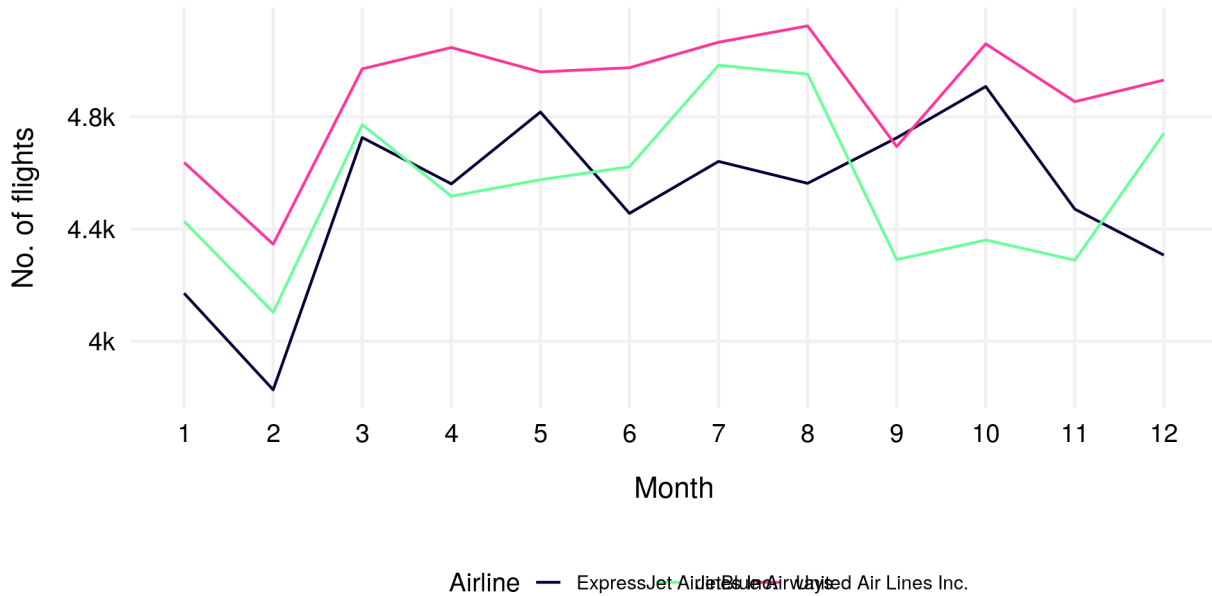
### Bar chart example (using peaktheme)

The chart below is the exact same as the one above. It's also formatted the legend so that the labels don't overlap. The text annotations on top of the bar has been turned off so it doesn't look too cluttered.



## Linechart from scratch using ggplot2

This is how you would make the line chart from scratch in ggplot2.



## Linechart using peaktheme

The chart below is the exact same as the one above! You can see the y-axis starts from 0; in some instances you may need to manually change this though by adding limits on the y-axis using `scale_y_continuous(limits = ...)`.

