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Introduction to Data Science

Decluttering Example

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Disclaimer and Acknowledgement



Disclaimer

- The content for these slides has been obtained from books and various other source on the Internet
- I here by acknowledge all the contributors for their material and inputs.
- I have provided source information wherever necessary
- I have added and modified the content to suit the requirements of the course

Introduction to Data Science

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Decluttering

- Scenario
- Step by Step Decluttering



Scenario

- You manage an information technology (IT) team
- Your team receives tickets, or technical issues, from employees
- Last year, a couple of people left and decided at the time not to replace them
- Other employees started complaining about having to "pick up the slack."
- You are now wondering if you should hire a couple more people
- We need to understand the impact of employees who left on the team's overall productivity
- We plot the monthly trend of incoming tickets and those processed over the past calendar year
- We notice that there is some evidence of team's productivity suffering from being short-staffed

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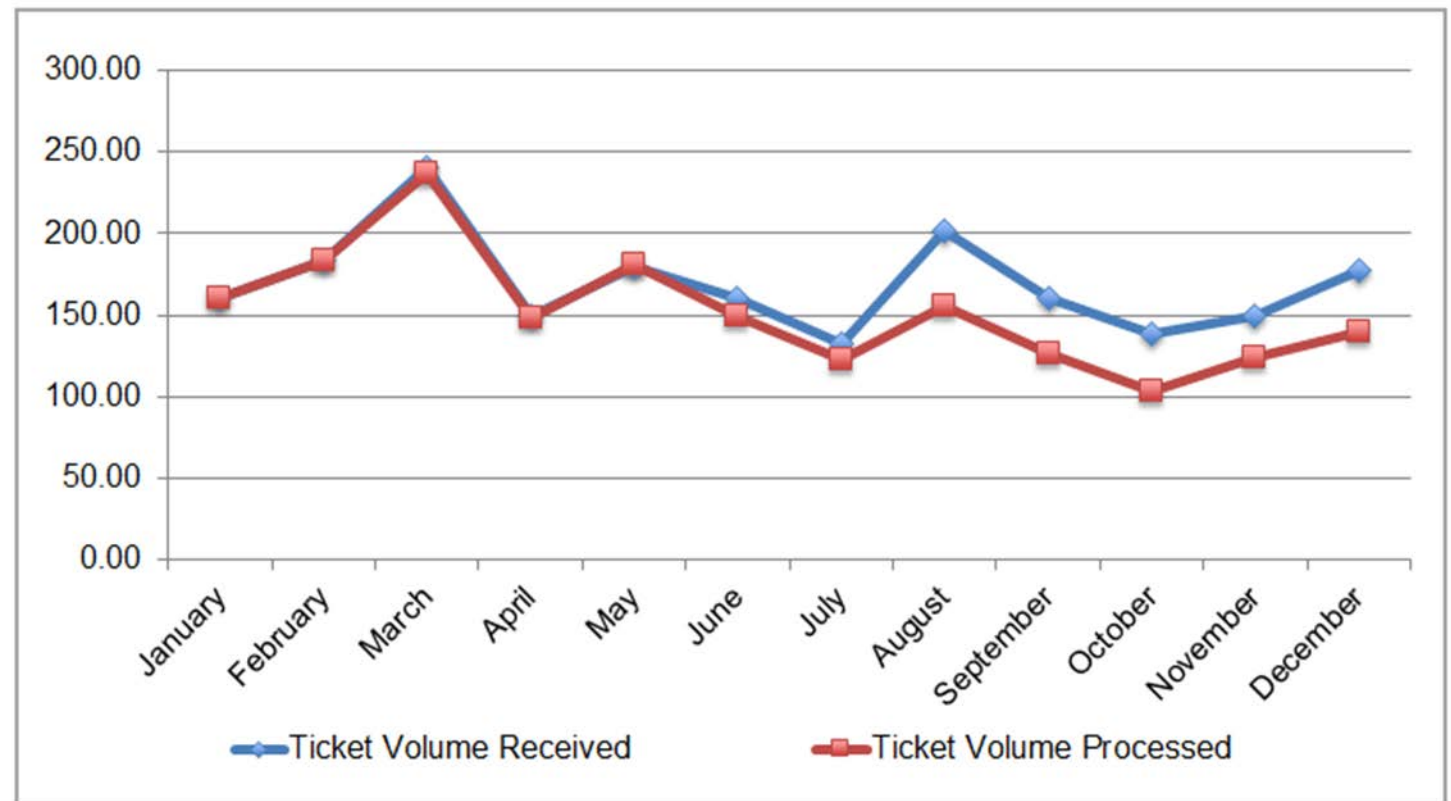
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Visual

- Learnings
 - Cognitive Load
 - Gestalt Principles
 - Alignment
 - White Space
 - Contrast



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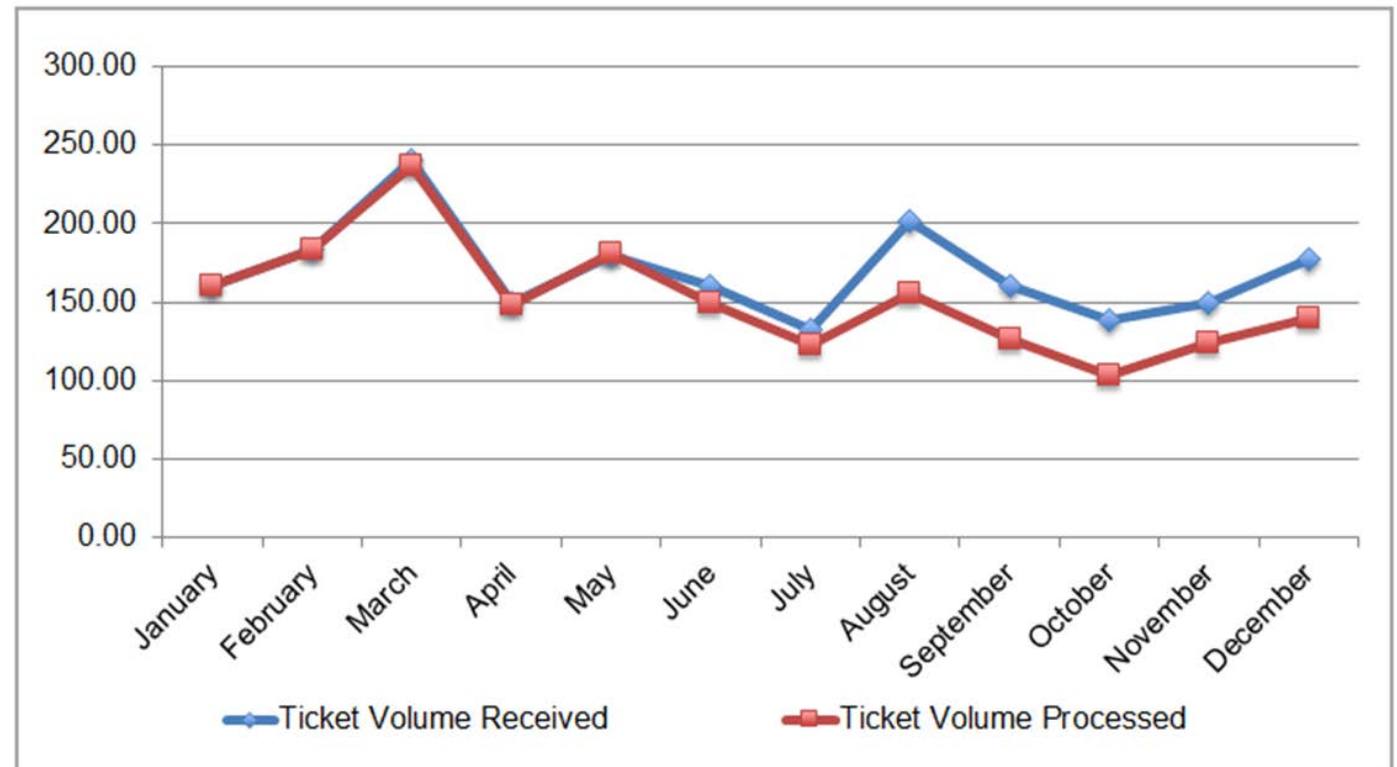
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Step-by-step approach

- Six steps to reducing the clutter
 - Remove the chart boarder
 - Remove gridlines
 - Remove data markers
 - Clean up axis labels
 - Label data directly
 - Leverage consistent color



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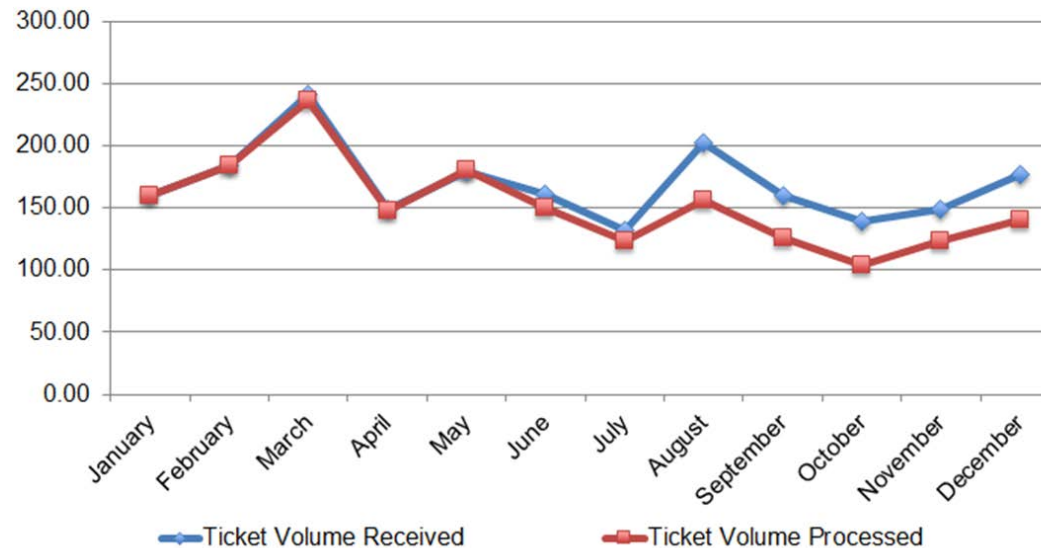
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Step-by-step approach

- Remove chart border
 - Unnecessary by Gestalt principle of closure
 - Use white space to differentiate data from other element



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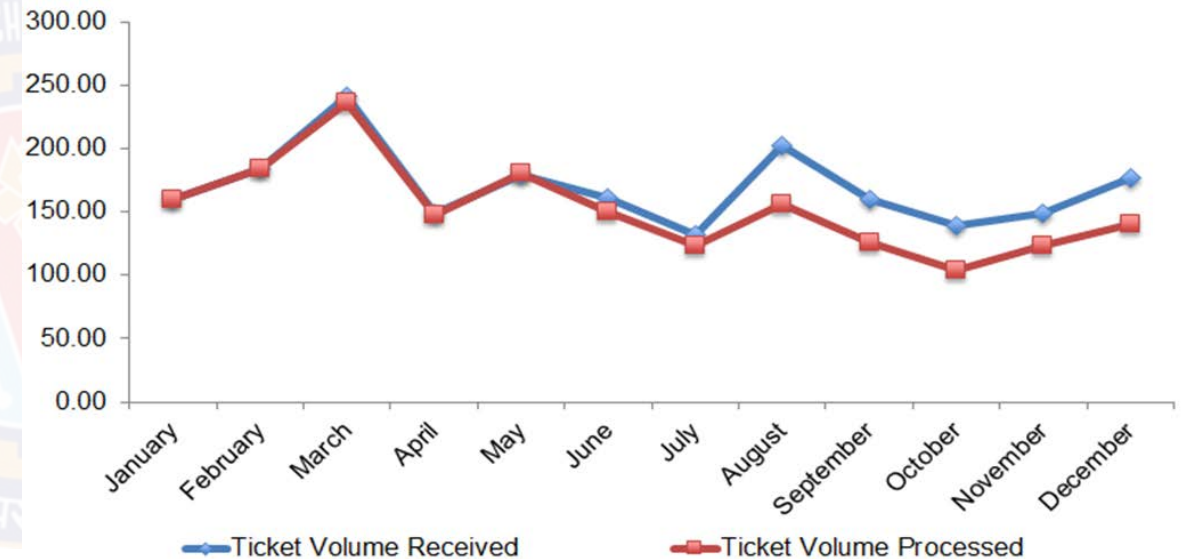
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Step-by-step approach

- Remove gridlines
 - When possible, get rid of gridlines
 - This allows for greater contrast, and your data will stand out more
 - If you want to trace from the data to the axis, we can leave the gridlines
 - But make them thin and use a light color like grey



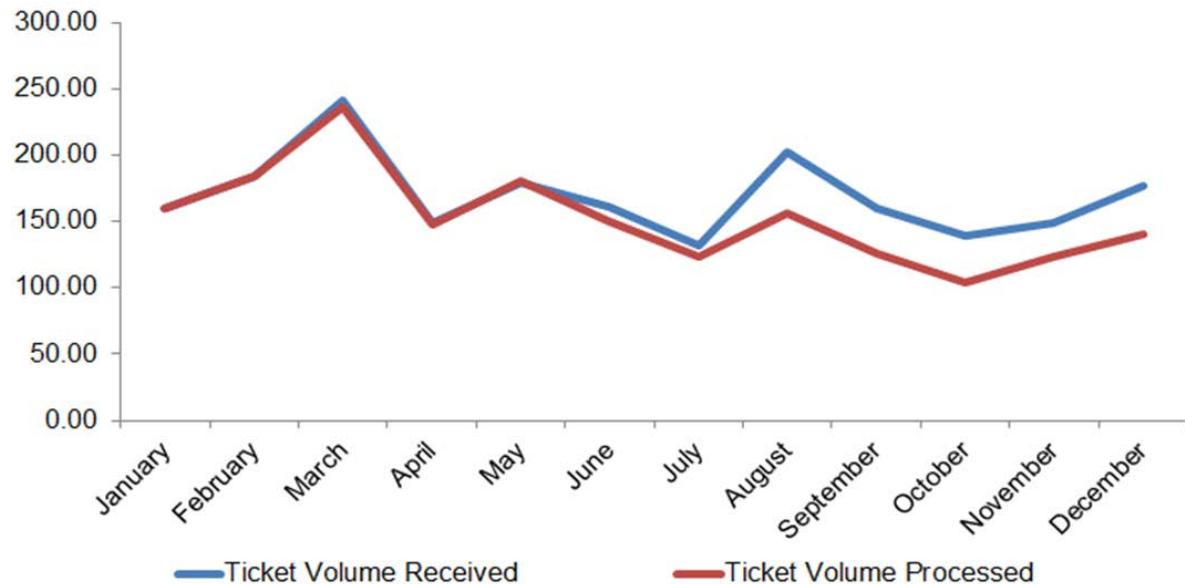
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Step-by-step approach



- Remove Data Markers

- Every single element adds to cognitive load
- Lines represent connectivity, data labels do not make any valuable addition
- This isn't to say that you should never use data markers
 - but rather use them with a purpose

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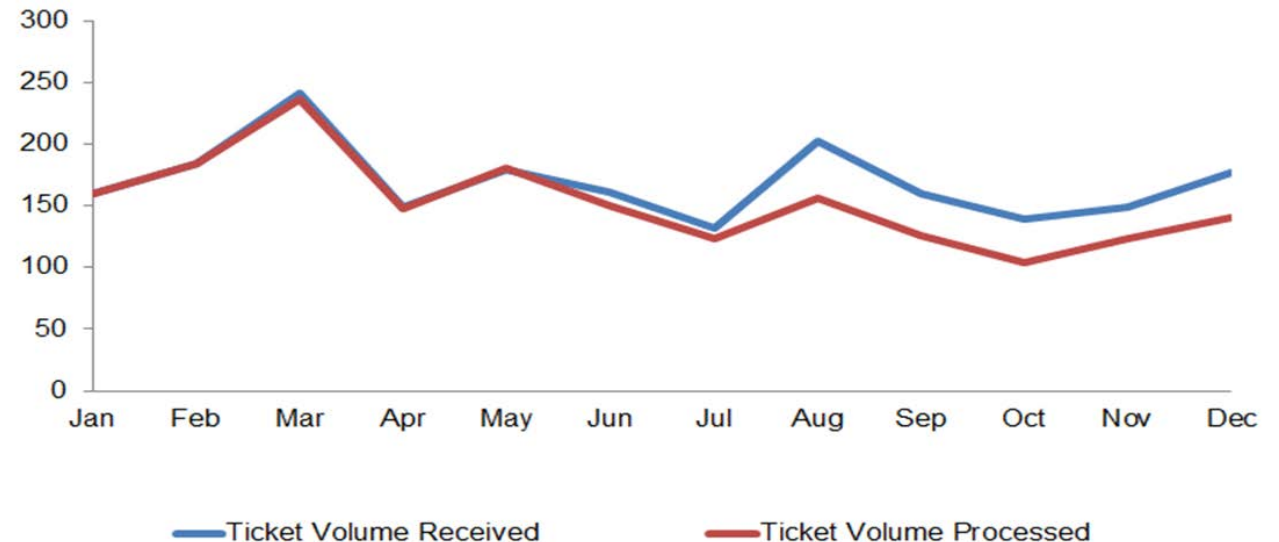
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Step-by-step approach

- Clean up Axis Labels

- Remove trailing zeros on y axis
 - They carry no informative value
 - They make numbers complicated
- Abbreviate months of year
 - Make months appear horizontally
 - Eliminates the diagonal text



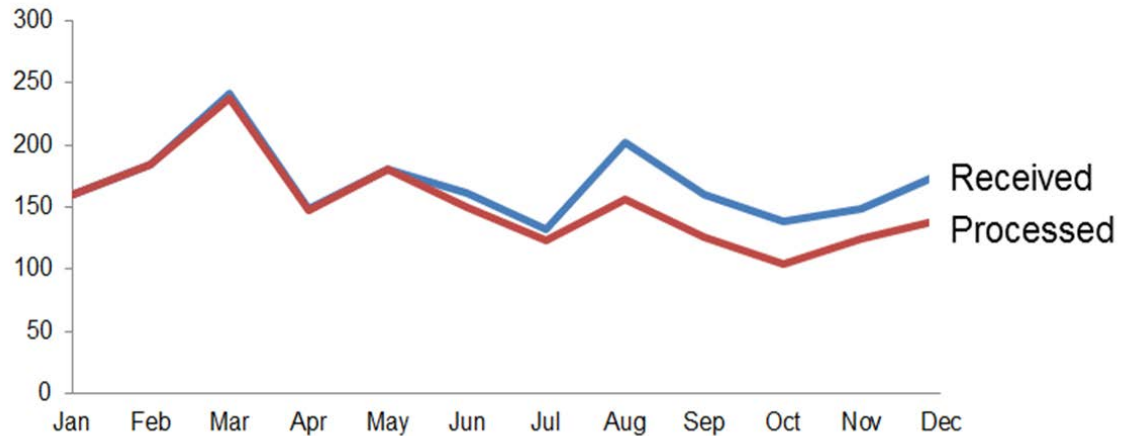
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Step-by-step approach



- Label Data Directly

- Reduce back and forth movement of eyes between the legend and data
- Leverage Gestalts principle of proximity
 - Put the data labels right next to the data they describe

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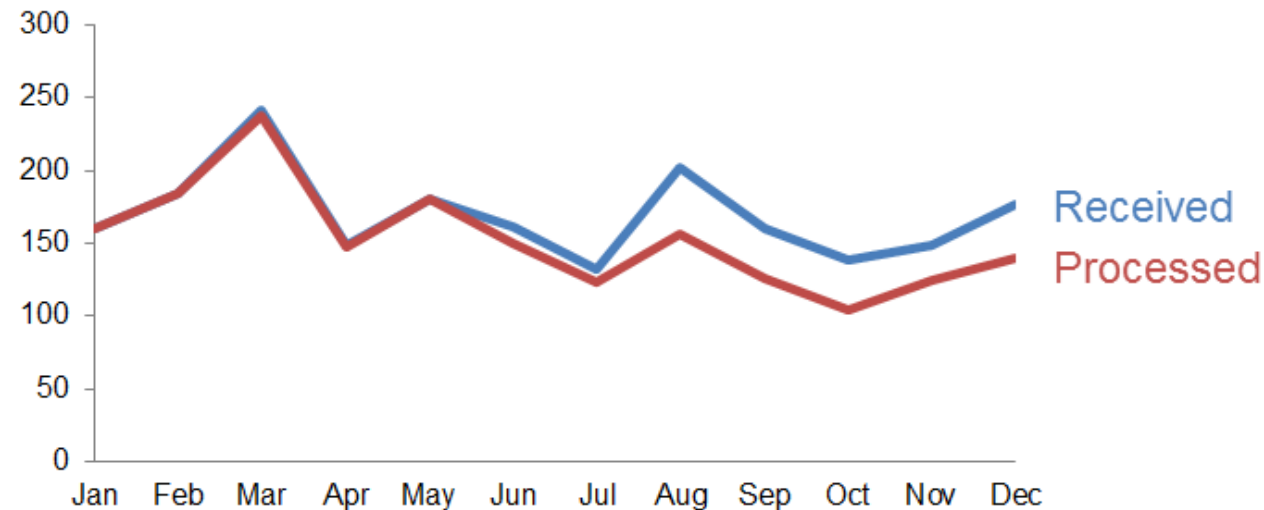
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Step-by-step approach

- Leverage consistent color
 - Leverage Gestalts principle of similarity
 - Make data labels of same color



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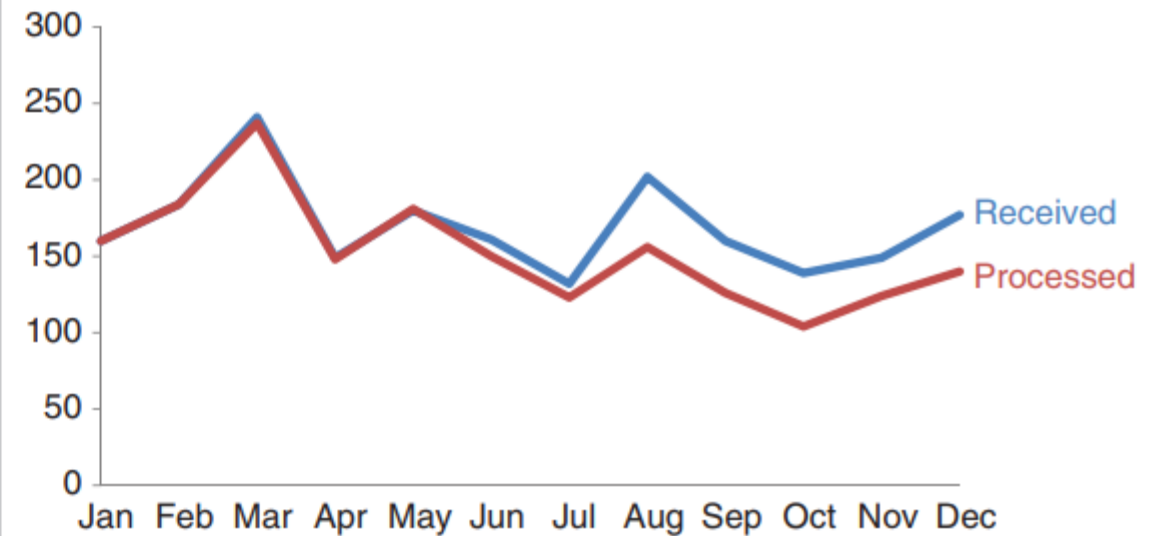
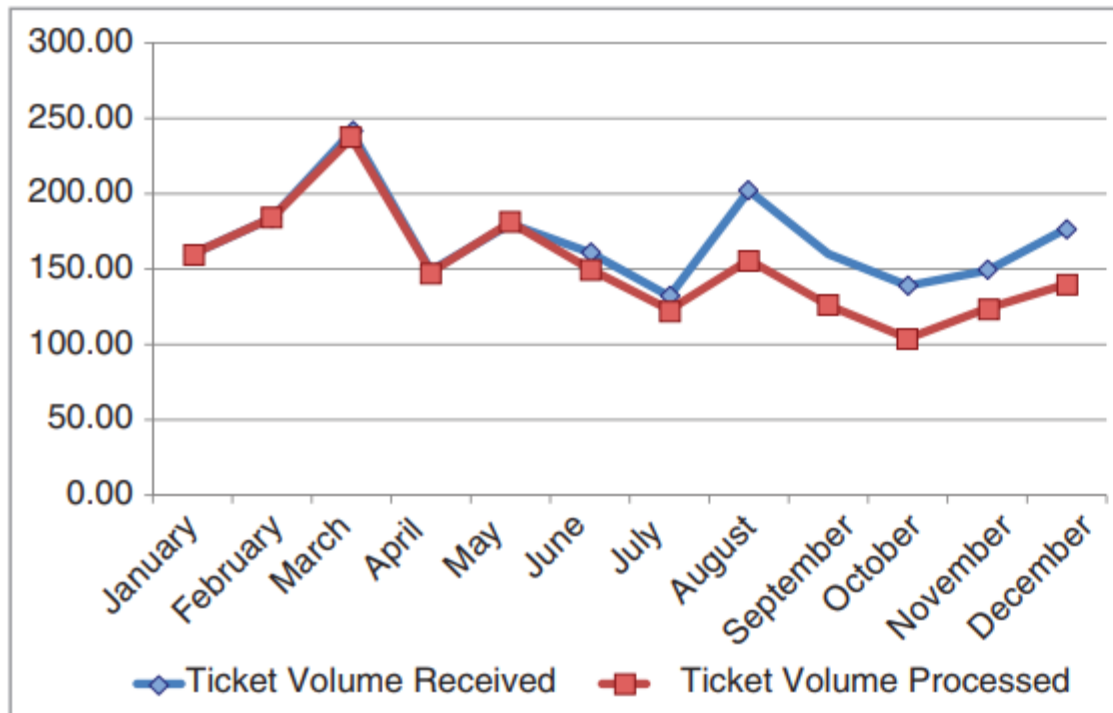
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Step-by-step approach

- Before & After Comparison



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Thank You!