

# Chapter 20

## Redundant coding

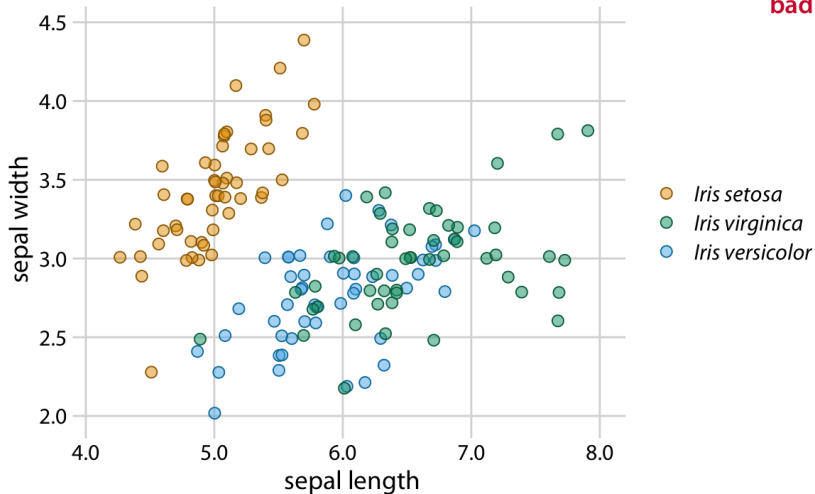
Fundamentals of Data Visualization

May 6, 2023

## Color has problems

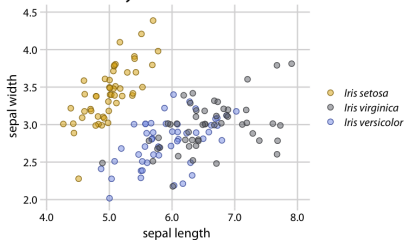
- It will be difficult to match the colors in the plot to the colors in the legend
- even if we only need to distinguish two to three different items, color may fail if the colored items are very small
- colors look similar for people suffering from color-vision deficiency

## Blue and green look similar

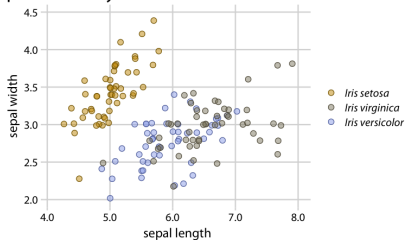


# Blue and green contrast **more** with cvd

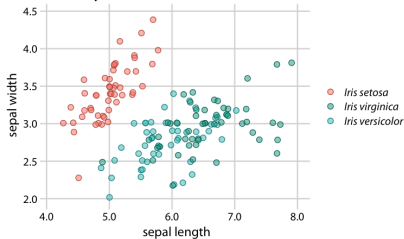
deuteranomaly



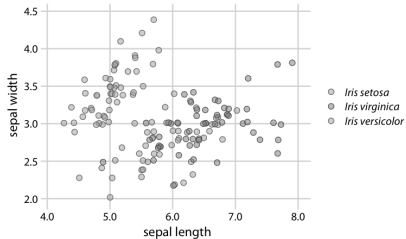
protanomaly



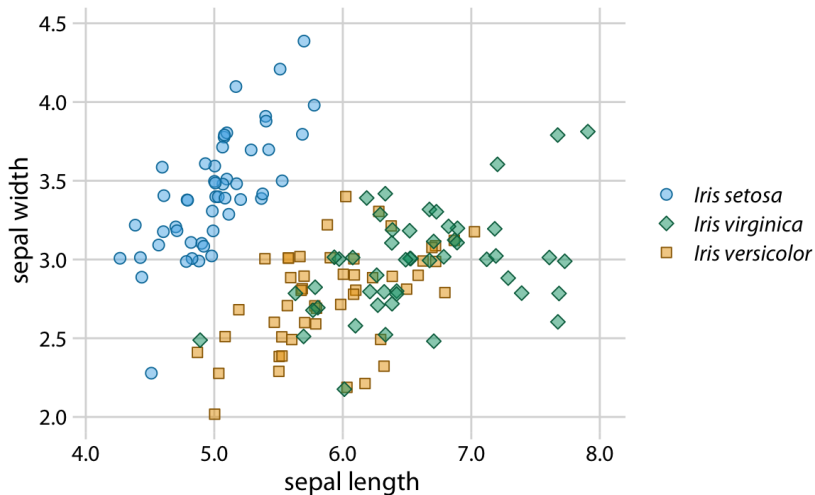
tritanomaly



desaturated

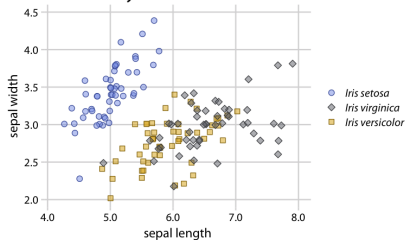


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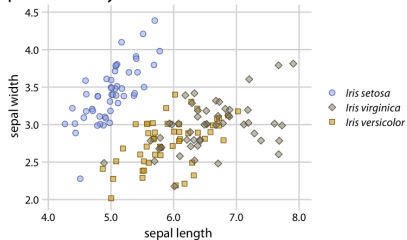


# Redundant coding

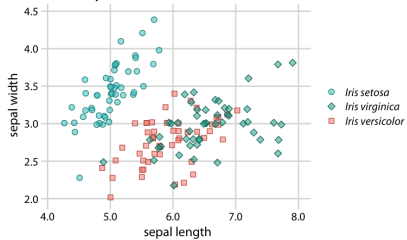
deuteranomaly



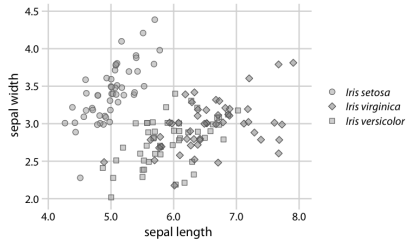
protanomaly



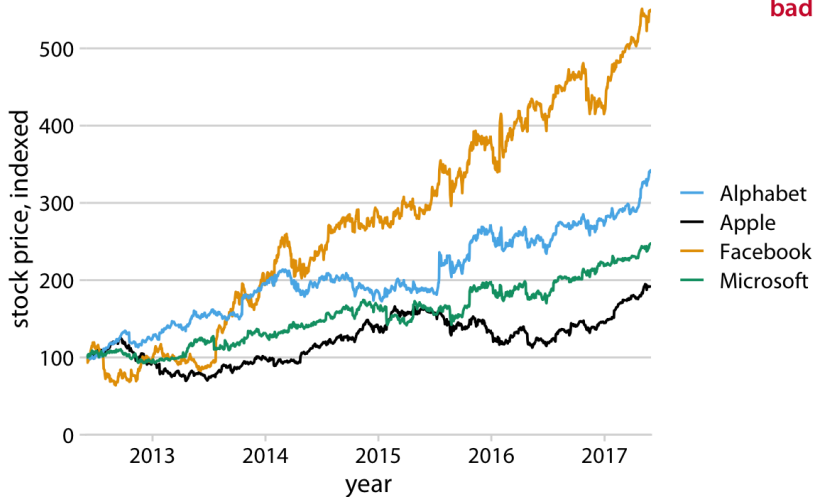
tritanomaly



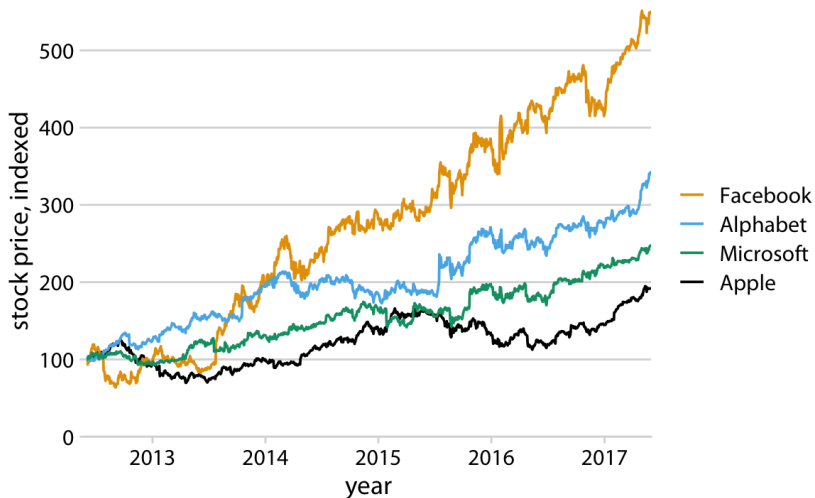
desaturated



# Redundant coding



## Redundant coding

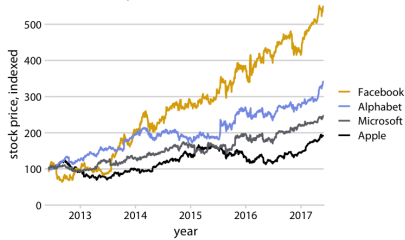


- If there is a clear visual ordering in your data, make sure to match it in the legend.

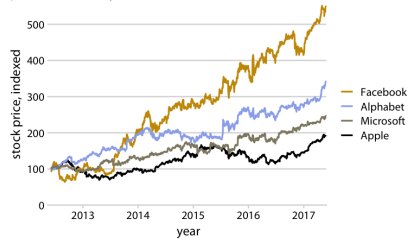


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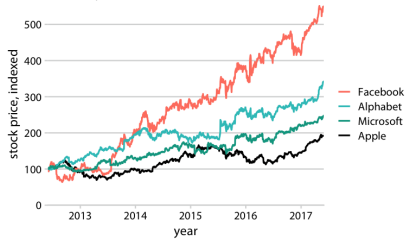
deuteranomaly



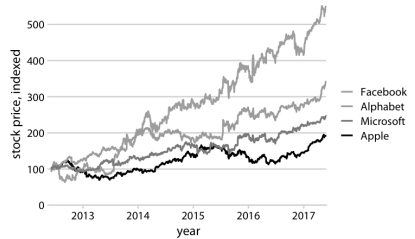
protanomaly



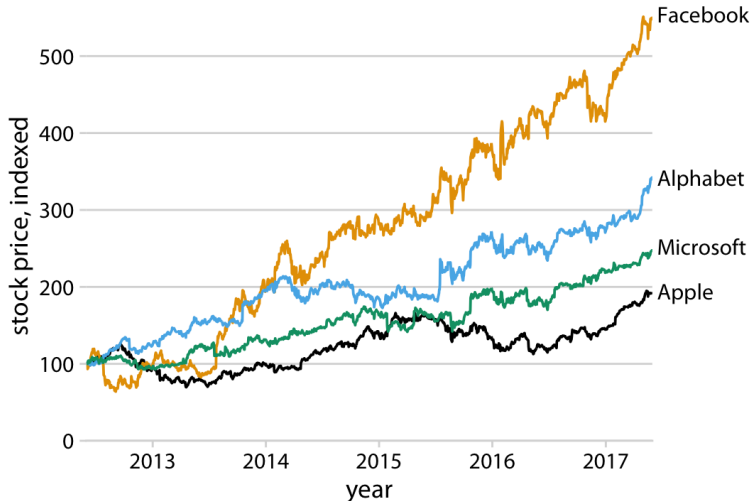
tritanomaly



desaturated

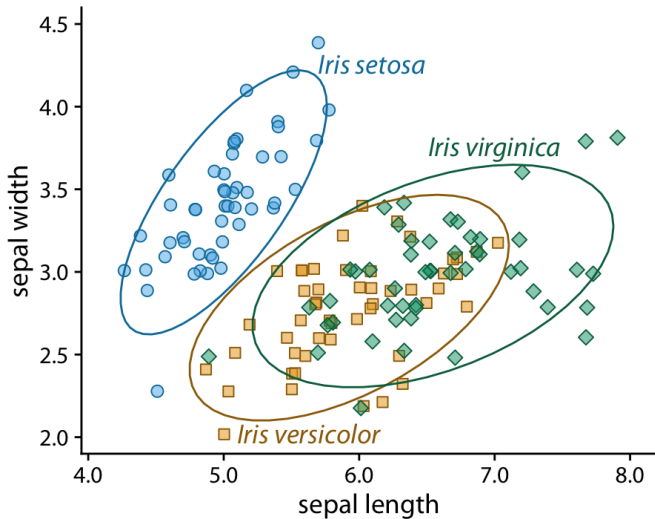


## Designing figures without legends

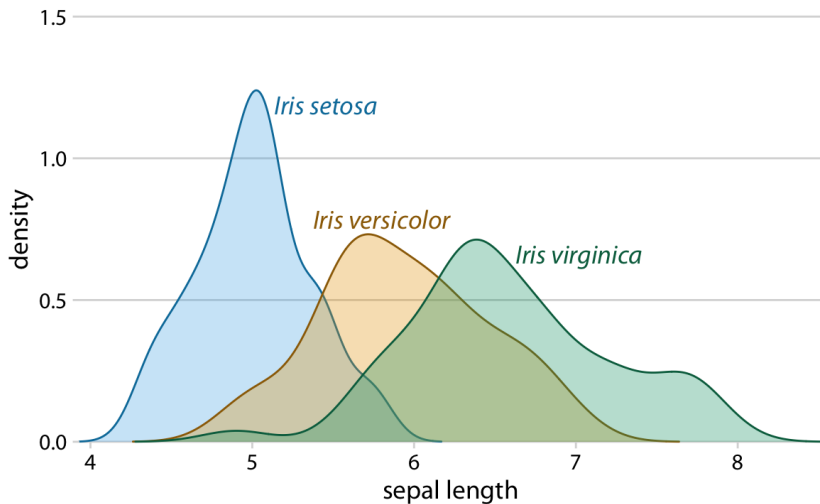


- Whenever possible, design your figures so they don't need a legend.

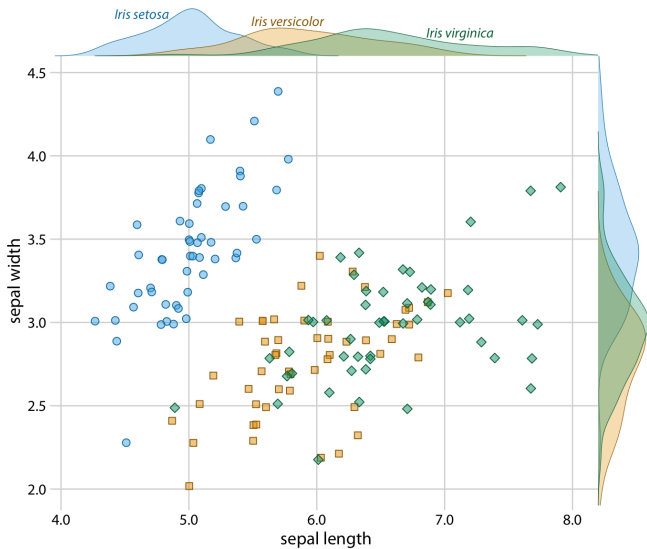
## Designing figures without legends



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# Designing figures without legends



## Designing figures without legends

