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**4.2 Exercises: Charts**

**Dataset used:**

crimerates-by-state-2005.csv

**Summary**

I tried two different approaches with the Scatter and Density charts. Within Power BI, I subset the data for Nebraska and neighboring states. I did this because I was interested in seeing how they all compared, and I couldn’t do all 50 with a legible legend. With this approach, the reader is given more detail for each state, but lacks the broader perspective in my Python and R charts.

With the Python and R scatter and bubble charts, I used all 50 states + DC, but they are not individually labeled. The information here conveys only population and number of crimes in each. Either is a viable option, depending on what the messaging if focused on.

With the density charts, both Python and R were similar in nature showing a slightly right-skew distribution. For Power BI, I took the density map literally and overlaid the data on a map of the contiguous US. Visually, it is more interesting than the simple density chart. I think using them in conjunction with each other would provide the reader the best perspective on the data.

**The following pages contain:**

Power BI – Scatter Plot

Power BI – Bubble Chart

Power BI – Density Map

Python – Scatter Plot

Python – Bubble Chart

Python – Density Chart

R – Scatter Plot

R – Bubble Chart

R – Density Chart

**Appendix**

Code support for both Python and R notebooks

Chart, scatter chart

Description automatically generated

Chart, bubble chart

Description automatically generated

Map

Description automatically generated

Chart, scatter chart

Description automatically generated

Chart, bubble chart

Description automatically generated

Chart, line chart

Description automatically generated

Chart, scatter chart

Description automatically generatedChart, scatter chart

Description automatically generatedChart, histogram

Description automatically generated

APPENDIX