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**3.2 Exercises: Charts**

**Datasets used:**

expenditures.txt

unemployement-rate-1948-2010.csv

**Summary**

I began this exercise as I have the prior, working first from Power BI, Python, then R. My two main challenges were managing the data so that it could be graphed and understanding how to apply the required graphs to the data. It was very circular in nature and even as I progressed through the application/languages I revisited my previously created graphs and adjusted what I was attempting to depict.

The greatest frustration came from the area charts. I was not pleased with the output from either of the application/languages. The Power BI was the best, as the colored line depicting 2001 helps the reader associate the information from the legend within the chart. For the Python chart, 2001 is defined as pink, however it shows up as a deeper blue than 2008. This occurred regardless of the colors I chose. Finally, R turned out a little better than Python in that the colors were more distinct for both years used. As an afterthought, this data may not have been the best use for the area charts as it is meant to depict a volume/quantity and unemployment is simply a rate. A simple line chart would be the best representation of this data, but I wanted to experiment with both datasets.

The stacked area charts turned out much better than the area charts and I enjoyed working the data into an easy-to-use format for all application/languages.

The code support contains a few more iterations and attempts of the graphs. Please consider the snippets prior to the ‘Appendix’ my submission.

**The following pages contain:**

Power BI – Tree map

Power BI – Area chart

Power BI – Stacked Area chart

Python – Tree map

Python – Area chart

Python – Stacked Area chart

R – Tree map

R – Area chart

R – Stacked Area chart

**Appendix**

Code support for both Python and R notebooks

Chart, treemap chart

Description automatically generated

Chart, line chart, histogram

Description automatically generated

Chart, histogram

Description automatically generated

Chart, treemap chart

Description automatically generated

Chart

Description automatically generated Chart, line chart

Description automatically generated

Chart, treemap chart

Description automatically generated

Chart, funnel chart

Description automatically generated Chart, histogram

Description automatically generated

APPENDIX