JFree Chart Report

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**Section 1: Setup**

The setup for JFree chart was simple, the instructions for it were found on a Geeks for Geeks tutorial page. I was to install the latest version of JFree chart on GitHub. With the downloaded zip, in VS Code locate the Referenced Libraries folder and import the JFree Chart library from there and VS Code does the rest by making a Json file and writing the import for it.

A screenshot of a computer

Description automatically generated

The problem that I had with this method was that what was provided on GitHub had no jar files that I could find, however after some searching, I found a proper folder from source forge with the proper files. I copied a premade chart’s code to see if it worked and it did.

A graph showing the number of schools and years

Description automatically generatedA screen shot of a computer program

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A screenshot of a computer

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**Section 2: Plotting**

For plotting I used an example graph from tutorials point to help familiarize with the graph making process. Main difference I had to adapt was making the DefaultategoryDataset with previous methods, this is the result I got.

A graph on a screen

Description automatically generated

It turned out well but the problem here is that the X-axis value is way too small to read. To fix this I had to switch to an XYLineChart to be able to set the tick interval units and the output has better readability.

A graph with a red line

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**Section 3: Salting**

For salting the chart, I had to change the plotter to return the chartPanel so I could get the values in the chart. With that I could get the values in the chart and salt them. Afterwards I would package all of that into a new chart and the result would be as shown.

A graph with red lines

Description automatically generated

**Section 4: Smoothing**

smoothing would be the same as salting the data which is not a problem due to learning how to get the chart values from section 2 and smoothing data from myself programmed plotter report. There is not much to say about this section besides the results worked out well.

A graph with a red line

Description automatically generated

*First iteration of smoothing*

Further iterations of smoothing did not change the graph that much altogether, however I am surprised at how well the graph got smoothed over.

**Section 5: Conclusion**

Overall, I would say that compared to using a tool such as octave or exporting the graph values to csv and using excel to chart, I would use these methods over octave and if I were more familiar with this library I would considerably use it over excel, considering I can do everything in one place.

*Sources*

[Geeks for Geeks JFree chart setup](https://www.geeksforgeeks.org/how-to-install-jfreechart-in-vs-code/)

[JFree Chart Files](https://sourceforge.net/projects/jfreechart/files/)

[Tutorials Point JFree Chart Line Chart](https://www.tutorialspoint.com/jfreechart/jfreechart_line_chart.htm)