

### A Mini Report Based on Importing Libraries for Graphing Purposes.

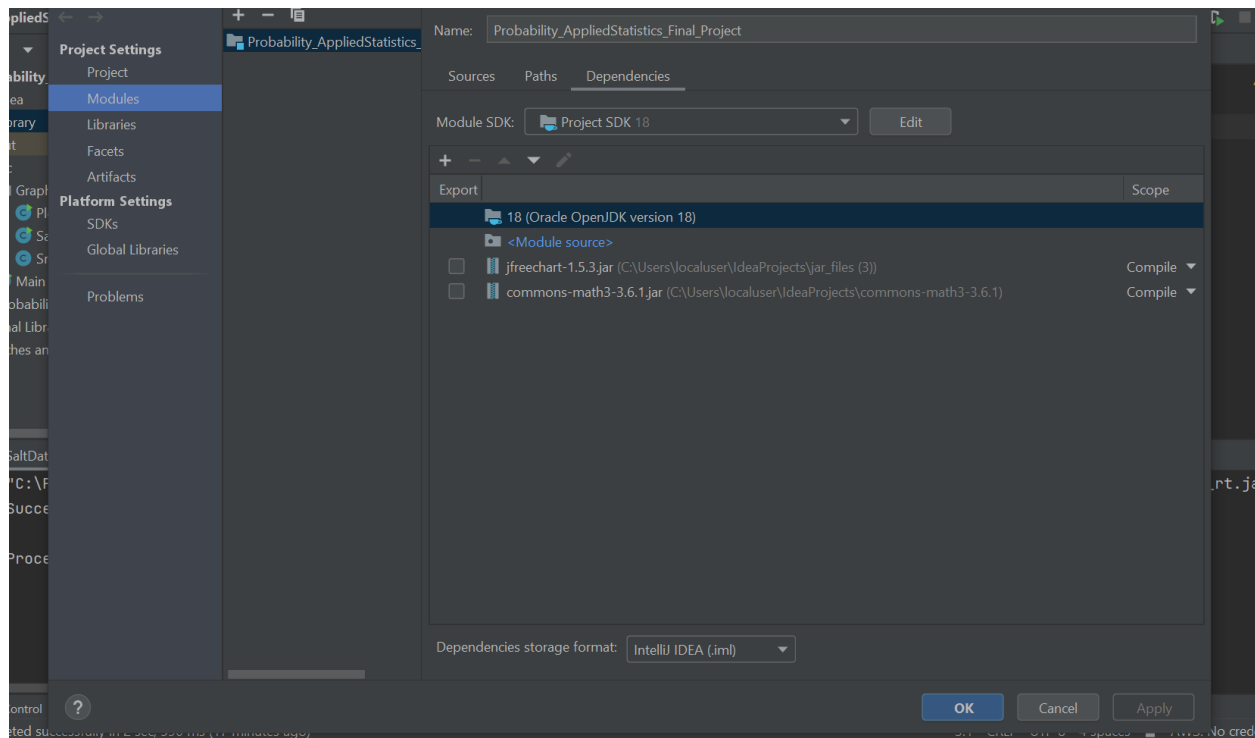
For this project, the libraries that were imported were JFreeCharts and Apache Commons Math library. The purpose of using these libraries was to plot a function and salt the data, using JFreeCharts then finally smooth the salted graph with assistance from the Apache Commons Library.

JFreeCharts and Apache JAR files can be downloaded from the following link: <https://jar-download.com/artifacts/org.jfree/jfreechart> and [https://commons.apache.org/proper/commons-io/download\\_io.cgi](https://commons.apache.org/proper/commons-io/download_io.cgi)

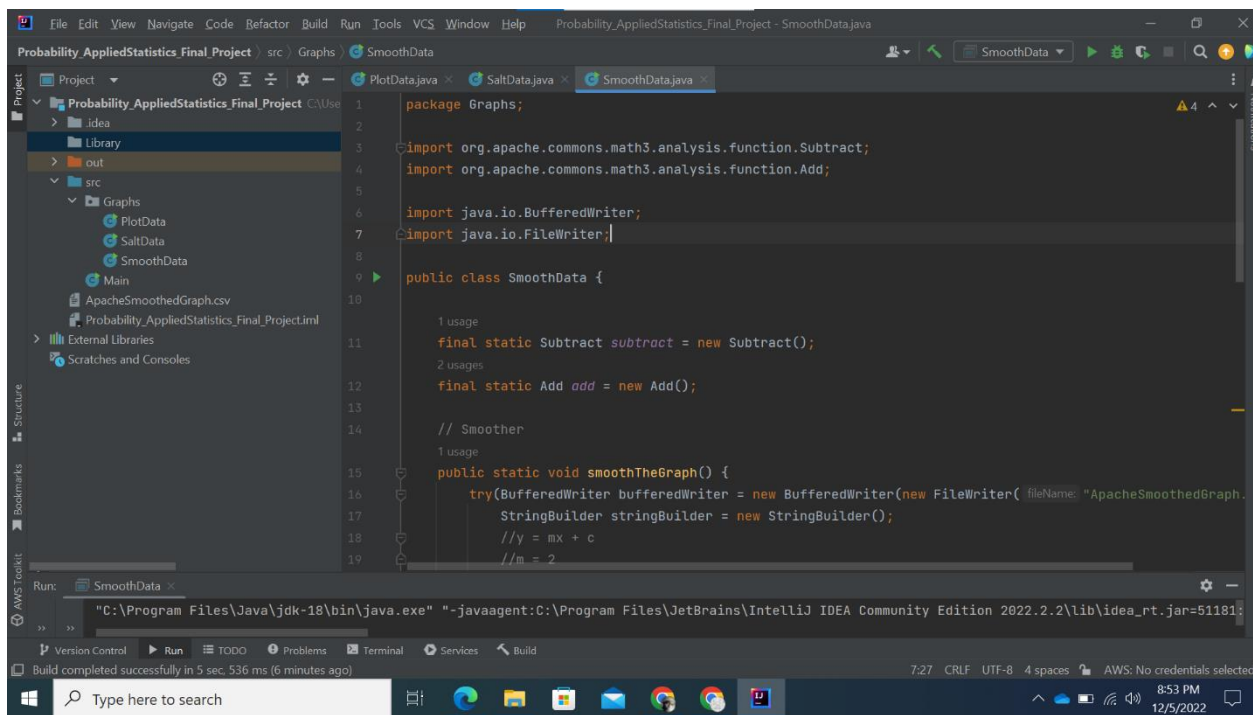
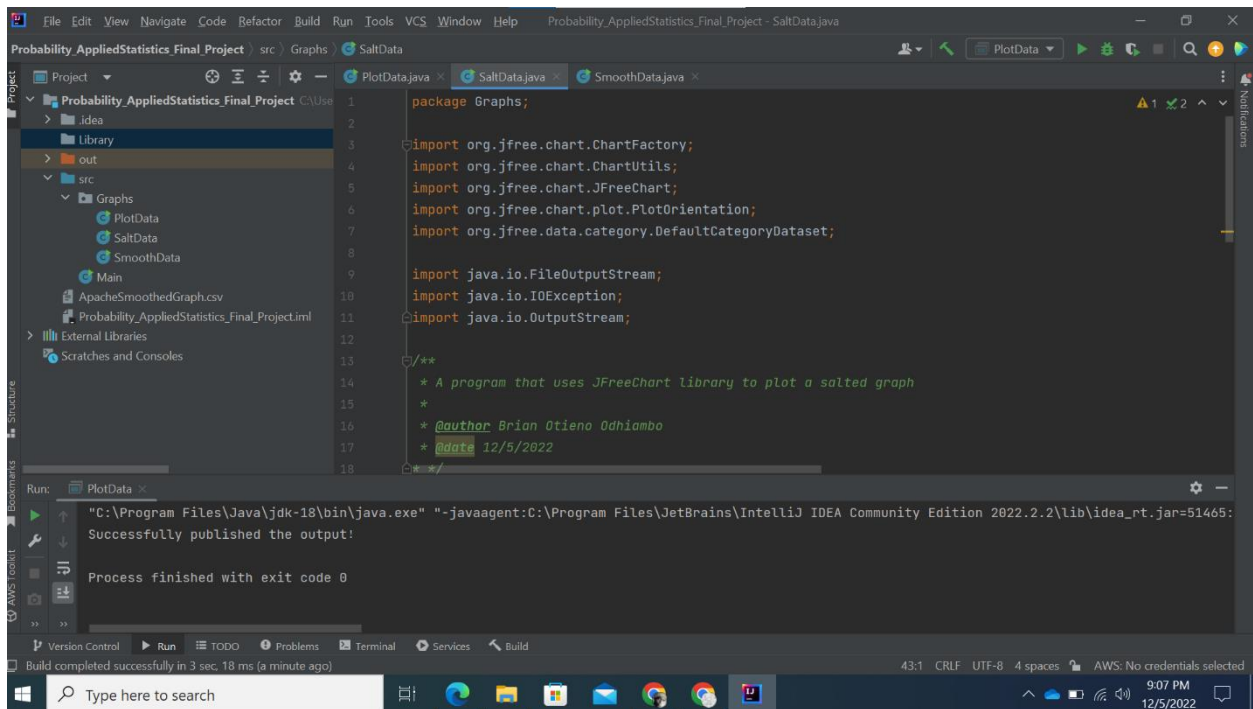
Once downloaded, the libraries must be extracted from the zip folders which they came with. For this exercise, the extracted files were cut and pasted to the folder containing the java program within the IDE folder inside the C drive.

Once the java classes were created for the functions to be plotted, importation of the libraries commenced.

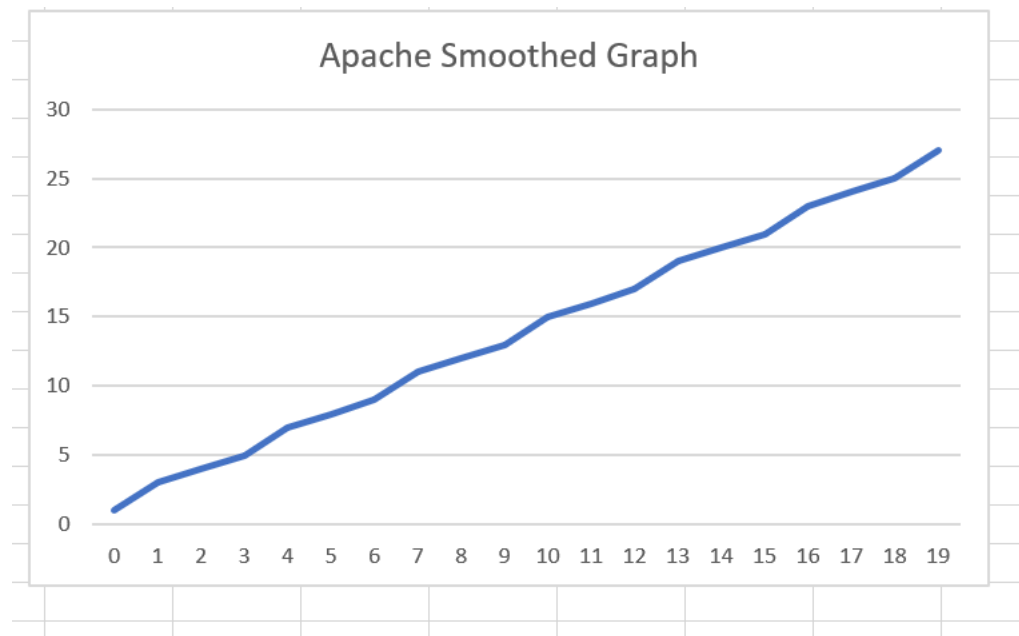
The procedure entailed clicking on the File tab and selecting the project structure. This would direct the user to the window as shown below. At this juncture, the user should click on the plus button and be able to easily select the respective jar files for Apache and JFree charts, as demonstrated by the image below.



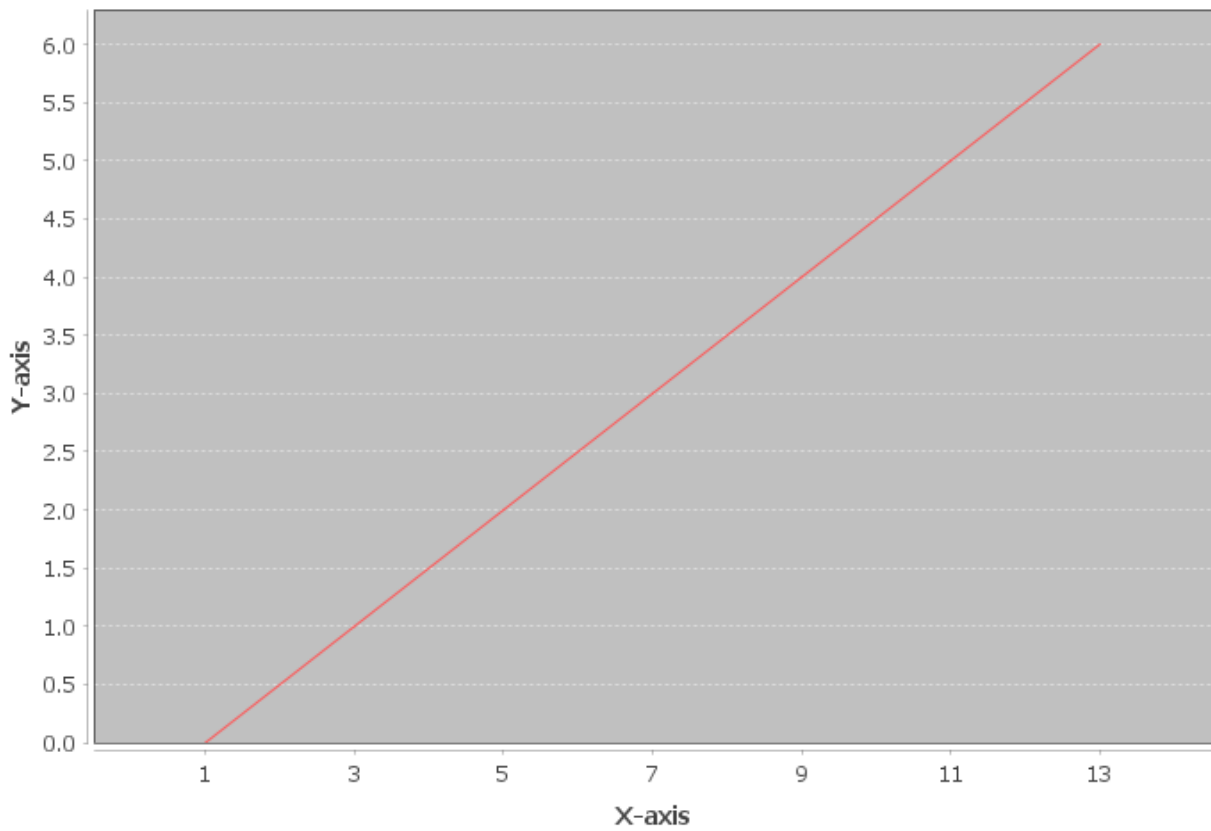
Once the user clicks on OK, the IDE installs the libraries and thus, is available for use. For this exercise, selected classes were imported from the libraries to create a presentable output. This can be observed in the image below.

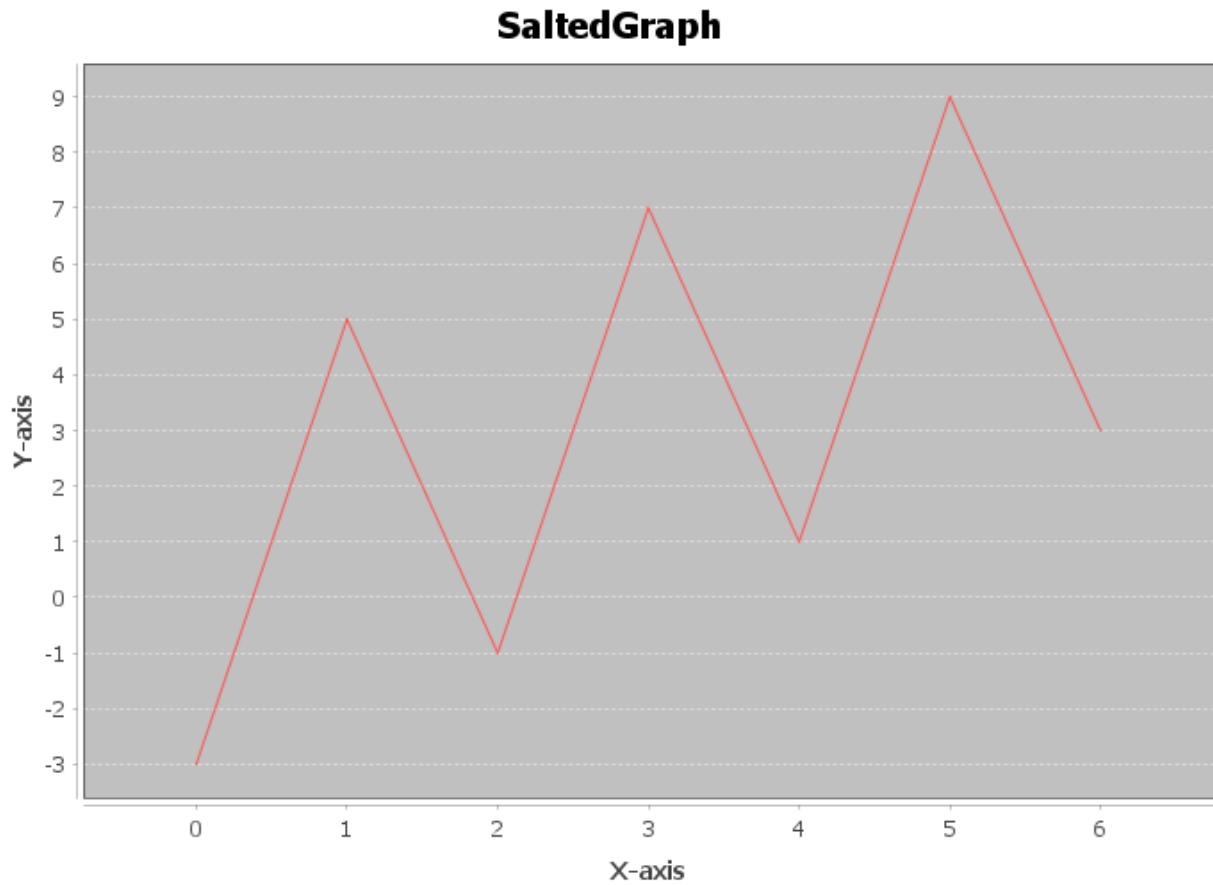


The photos above showcase, the successful installation of the libraries, otherwise the IDE would flag the imported libraries as absent and would require to be downloaded. With the success of the installation, once the program is running, the output generated is as below:



**LineGraph**





In a nutshell, JFreeCharts and Apache are very vital for data analytics and the features from their respective APIs can assist a lot of professions within the field of data science, to organize data and create a presentable piece of information for stakeholders to strategize on.