Plotting Part1

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I created a software using java code to plot a mathematical function and play about with its parameters as the first phase of this project. I decided to keep it simple and begin with the linear function y = 2 x + 1 since it is simple and an effective method of testing the program's fundamental operation. The application creates x-values between -10 and 10, determines the appropriate y-values, and exports all the data to a CSV file. I then proceeded to plot the data in Excel after it was exported so I could examine the outcomes. I ran into some minor problems trying to get the data into excel but then shortly realized that I needed to download an extension called Rainbow CSV which VS code kindly suggested and help make the process way easier.

Experimenting the function's parameters and observing the instantaneous effect on the graph was what truly made this project fascinating. For instance, I produced a steeper line by increasing the slope to y = 3 x + 1 y=3x+1. I also made the graph smoother by lowering the slope to y = 0.5 x + 1 y=0.5x+1. The line moved higher when the intercept was changed to 𝑦 = 2 𝑥 + 3 y=2x+3, and downward when 𝑦 = 2 𝑥 − 1 y=2x−1. I tested a quadratic function, y = x 2, in addition to linear functions, and obtained a crazy curve. Observing these Excel modifications made me appreciate the process of transforming code into something visual.