Krishna's First Problem Set

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1 Introductory Paragraph

I went to the NYU Gallatin School of individualized Study for my undergraduate degree and graduated in 2021. My first experience coding was the NYU physics curriculum. I also took compsci 101, which was basically an introduction to object oriented programming in Java. For the past year and a half, I have been working as a research associate at Javad Shabani's lab. We probe superconducting microwave circuits with a VNA at microwave frequencies, and I plot and fit the data in a jupyter notebook. Mostly I cobble together other people's code to make plots.

On the first day of class, professor Blanton mentioned that there is always a struggle to chose between doing computational projects the "quick and dirty way" and doing the them the "correct way." That resonated with me because I often feel forced into doing things the quick and dirty way because I have deadlines and I feel that I don't have the background or training to do things the proper way. In this course I want to learn the how to organize my computational projects and execute them the "proper way" so that when I have to make this choice, its for a good reason, not just because I could only figure out the "quick and dirty way". really struggle with interfacing between hardware and different software. For example, if I have a data that is being stored on a piece of hardware I need to load that into python, then I need to have some script that can read that can organize the raw data into an array. I feel like often run into problems with these kinds of tasks because if I run into an error, I have no idea how to debug it because I am using somebody else's code.

After grad school I will most likely go to Industry. I have a few friends/colleagues who graduated from Shabani's lab working in industry at IBM or QCI, and it seems appealing to me to be able to work on similar research to do research on superconducting microwave circuits, but have the resources of a private company.

2 Github

Here is my github repo: https://github.com/kdindial/phys-ga2000

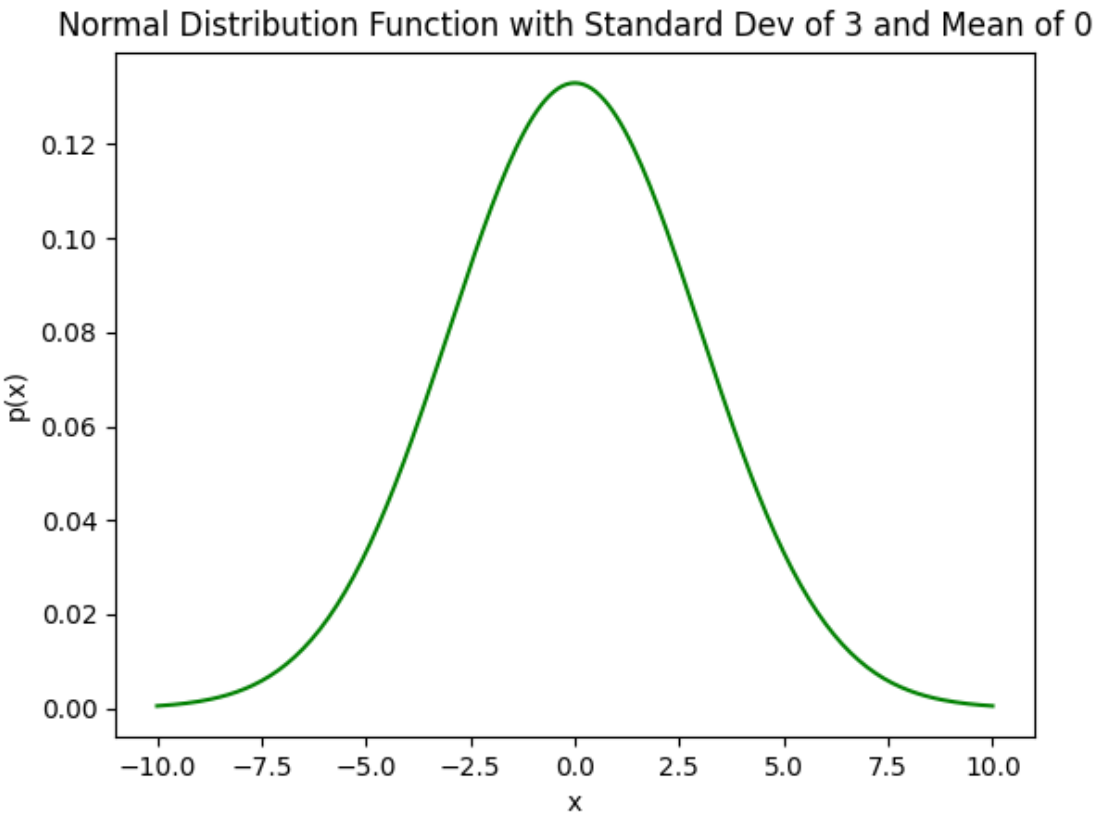

Figure 1: This is the gaussian plot I made for my first problem set.