# PHYS-GA2000 PS1

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## 1 Introduction

In this problem set, we are asked to write a python script that outputs the graph of a normalized Gaussian distribution in png format. The form of a normalized Gaussian distribution is as follows

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{\frac{-1}{2}(\frac{x-\mu}{\sigma})^2} \tag{1}$$

where $\mu$ is the mean and $\sigma$ is the standard deviation of the distribution. Their values are given in the problem statement as 0 and 3, respectively.

## 2 Results

The output of the python script is presented in Figure 1 when it is run with **python plot-gaussian.py** command on Terminal.

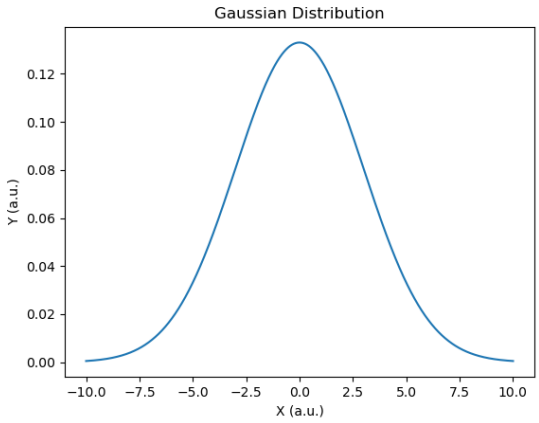


Figure 1: The plot of the normalized Gaussian distribution with zero mean and standard deviation of 3.

My GitHub repository is ***akoralaykin/phys-ga2000***

## 3 My goal in this course

My main aim in this course is to get familiar with the numerical methods used to solve PDEs and to be able to choose appropriate formalism when I encounter with them in my future research. I did an undergrad research on magnetization dynamics at nano-scale where I had to handle with complicated PDEs. In addition, I have a comprehensive experience in numerical modeling using Mathematica and virtual instrumentation. Although I feel like it is too early to firmly decide on something, I want to work in a national lab or research focused company after my degree is finished, for now.