Assignment # 2 (Prequisite)

Date of float: 22-08-2020.
Date of submission: 29-08-2020.

Title: Implementing Box-Muller Transformation algorithm in Python (use NumPy library only)

In the Probability and Satistics course (PBS-432), you perhaphs have implemented the concept of Box-Muller transformation. If not, please learn about it now, because it is very useful and has wide range of applications. In the machine learning Gaussian distribution/the Normal Distribution is the workhorse and being able to draw samples from this distribution lies at the heart of many machine learning algorithms. Box-Muller transform enables us to transform any i.i.d (independently identical distribution), say uniform distribution U(0,1) to i.i.d normal distribution N(0,1).
You need to implement the Box-Muller Algorithm and show that the generated samples are indeed normally distributed by generating a plot in Python. May use and study the following hints.

Hints:
https://medium.com/mti-technology/how-to-generate-gaussian-samples-3951f2203ab0