PH3205-Computational Physics

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Worksheet 5

A notebook is provided containing solution to both the problems: *WS5_notebook.ipynb*. Also individual *.py* files are provided separately for this.

Problem 1

For this problem the supplied .py file is *WS5_1.py*. For this problem Box-Muller transformation functions are defined.
The figures for this are *Problem1_1.jpg*, *Problem1_2.jpg*
Explaining the figure

- The plot for the first part of the problem is a line plot. After obtaining the edges of each class, I've plotted the frequency vs lower-edge or the lower boundary of the class.
- In the second problem I've plotted both the line plot and the histogram of the distribution.

Problem 2

For this problem, the supplied .py file is *WS5_2.py* and the figures are: *problem2_1.jpg* and *STD_vs_N.jpg*.
NOTE: The number of runs for part be is large, so compilation time can vary. Choose the parameters judiciously.