Computational Physics Course

Exercise 2:

1- For the data sets of Exercise 1:

a) Calculate the Moment, $\langle (x - \langle x \rangle)^n \rangle$, for different "$n$" and compare with the second moment.

b) Calculate the skewness and kurtosis.

c) Calculate and plot the Auto-Correlation function.

d) Compute and plot the variance of data as a function of the window size.

2- Use Computer random numbers to generate a set of data with Gaussian distribution function.

3- Use the Gaussian Kernel estimator function to smooth the distribution function of the data in "$p(x)$" file.