

MA202 Assignment - 2

❖ Which files are included in ZIP file :

➤ **ComputePdf.m :**

→ In this file, we can check whether our function is discrete or Continuous. Based on that, code will output the desired results. If our function is Discrete then code will output the matrix containing the pmf of that function. In finding the PMF of that function, I have executed the code in such a way that it will count the probability of each of the input entries and find the PMF then it is stored in the output matrix by using a loop. If the given function is Continuous then code will use another function which is shown below.

➤ **FindProbabilityDistribution.m :**

→ If the given function is Continuous then code will output the desired results. If the given Continuous function is in matrix form then code will compute the PDF for each of the input entries then output the matrix in which each entry is in the form of PDF.

➤ **TestPDF20110131.m :**

→ In this file, one discrete and two continuous functions are included. The discrete function is Poisson distribution and the other two continuous functions are Standard Normal distribution and Exponential distribution respectively. In each of these functions, I have included the MATLAB in built generated functions as well as defined each of the distribution functions and plotted both the functions in a same graph so we can see the accuracy of my defined function. While writing the range of input values, I have taken care that desired output should be executed enough so that it could overlap the in-built MATLAB generated function.

→ To use each of these functions and also to check each of these functions, we can change the parameters of the inputs by our own and according to those inputs, the output will show up and it will also overlap on the inbuilt function so we can check the accuracy by changing the parameters approach. To change the parameters , we can use the random generator function which is included in all of these functions.

❖ Limitations and Potential Scenario (Where it may fail):

- I can define the limitations according to the functions whether our function is Discrete or Continuous. In Discrete functions, the major limitations according to my opinion is that - in my code of Discrete function, I have used the nested loop to find the PMF of each of the entries so it can run easily if the input data is good enough to large. If our input data is too large then the time complexity of that nested loop will become extremely big and then code will not run.
- The continuous function perspective, the major limitation is that -if the input data is too short then the execution of that function is not good enough to overlap the inbuilt function so we cannot compare the given input data with the idealised condition and this may affect the accuracy of the given input data.. So, for continuous function, input should be large enough so that my function will plot all the detailed data. I believe that, while using the computation simulation, accuracy should be the major priority.