CS-844 Assignment 1

Due Date February 19, 2026

Your task is to implement the Neural Autoregressive Density Estimation (NADE) model that we discussed in class. The code should be set-up to take 28x28 MNIST black and white images as input. It should also have a sample() function that when called should generate 28x28 black and white sample images. Note that you are not expected to actually perform any training of the model in this assignment. Following are the recommended steps to take:

1) Install Anaconda3 on your PC.
2) Create an environment for this class.
3) Install Pytorch, make sure it is accessible through the environment you created. If you have access to a computer with a GPU you can install Pytorch with Cuda. But that is not necessary.
4) Install Jupyter. This will give you access to notebooks.
5) Create a Notebook named [YourName]_[RegistrationNo.]_Assignment1.ipynb
6) Once you have written the code, make sure to run the notebook with a sample output (image). You will need to install appropriate libraries for plotting.
7) Once you are satisfied with the output of your code. Save and Export your notebook as HTML file. (see attached template example).
8) Additionally, write a 1-page report explaining how your code is related to the math of NADE that we discussed in class. Save this as PDF.
9) Upload the .html file and the PDF report on LMS.