Question 2: Implement variational Auto-encoders.

python train.py --epochs 30 ---- navigate to the src folder inside the project folder run the train.py . using the optional epochs command line argument, we can set required number of epochs. It is an optional parameter if no value is passed default value 20 will be considered.

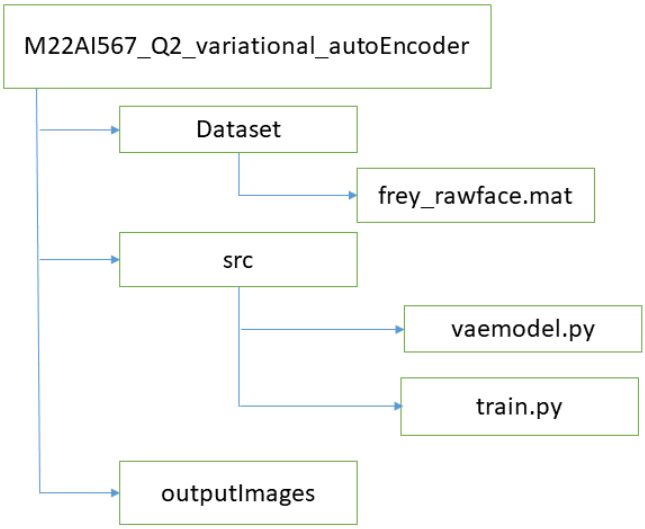
Steps Followed:

1.Downloaded the Frey Face dataset that is mat file and placed inside the dataset folder and read inside train.

2.Create vaemodel inside that implemented of variational auto-encoder (VAE) FreyFace

3. The outputImages folder will contain the outputs that the code will generate while training the convolutional VAE model. This includes all the images that will be reconstructed by the VAE neural network model.

Project Structure:



References:

1. Face Image Generation using Convolutional Variational Autoencoder and PyTorch. URL: https://debuggercafe.com/face-image-generation-using-convolutional-variational-autoencoder-and-pytorch/
2. Understanding Variational Autoencoders https://towardsdatascience.com/understanding-variational-autoencoders-vaes-f70510919f73
3. Face Image Generation with Variational Autoencoder Paper: https://www.researchgate.net/profile/Francis-Gregory-2/publication/355584117_Face_Image_Generation_with_Variational_Autoencoder/links/617783c3a767a03c14b4e88d/Face-Image-Generation-with-Variational-Autoencoder.pdf
4. Variational Autoencoders: https://www.youtube.com/watch?v=fcvYpzHmhvA