**Part 1**

The Class\_7\_DiffusionModel.ipynb notebook implements a diffusion model based on a dataset of flower pictures. I loaded it and ran it unchanged. But the training failed during the 28th Epoch of 50. So, I changed it to be 25 Epochs. This time it ran to completion.

It is interesting to watch the training. For the first 15 or so Epochs, the results look not much different than noise. But quickly the flowers start to emerge and by the 25 Epoch, they are quite discernable.

The UNET expands channels out to 32, 64, 96, and 128 and then compresses the channels back with 128, 96, 64, and 32. This is used to create the model which is trained on the flower pictures. As mentioned above, I was only able to run it for 25 EPOCHS.

It seemed to me that the results were pretty good for 25 EPOCHS. I wonder if we had more data or a variety of images would we need more EPOCHS to get good results.