Samar Ibrahim Antar

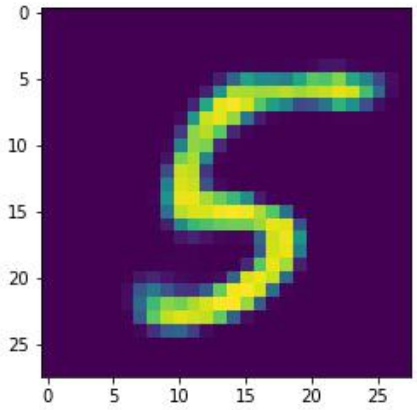
Homework#5: Generative Models

- I implemented the VAE using Keras:

✓ Encoder: adding input layer with original_dim (input dimension 28*28) , then hidden layer with relu activation function & intermediate_dim =400, to get mean and variance, and using mean and variance, we can calculate **Z** (latent_dim = 20)

✓ Decoder : is opposite of encoder with sigmoid activation function, to reconstruct the image and its input is (Z) with latent dimension.

- Result of point (b): interpolate between two images of same digit with lambda equal to (7/8)



- Result of point (c, d ,e): to get 7 linear interpolates between two images of same digit with different lambda

- Result of point (f): to get 7 linear interpolates between two different random digits with different lambda