DEEP LEARNING ASSIGNMENT QUESTIONS

1. The MNIST dataset consists of 70,000 images of handwritten digits, where each image is 28x28 pixels. Classify each image into one of the 10 classes (digits 0-9).
   - **A.** Using a Multi-Layer Perceptron (MLP) classifier
   - **B.** Using a Convolutional Neural Network (CNN) classifier

2. Classify images of dogs and cats using a pretrained ResNet-101 model.

3. The CIFAR-10 dataset consists of 60,000 32x32 color images in 10 classes, with 6,000 images per class. Classify each image into one of the 10 classes.

   A. Using a Convolutional Neural Network (CNN) classifier
   B. Using an AlexNet classifier
   C. Using a pre-trained ResNet model
   D. Using a pre-trained Inception model
   E. Provided a specific neural network architecture, train the CIFAR-10 dataset to classify

4. Build a model to classify the sentiment of the text data into positive, negative, or neutral categories.

5. Implement and learn LSTM, Bidirectional LSTM, GRU, Bidirectional GRU, Transformer and 3D CNN for video captioning task.