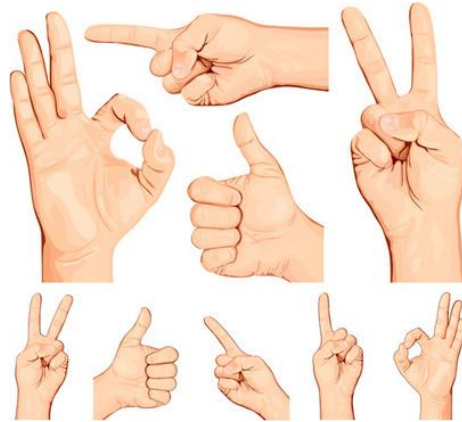Design an artificial neural network (Multilayer Perceptron) to identify hand gestures. Sample gesture images have been shown below.

Include at least 10 gestures, and train your network with data from a standard data set (you may found free data sets from the web). Test your network and discuss its performance.

A deep neural network is to be designed for recognizing hand-written digits. Design your network choosing its type, number of layers, etc. Use MNIST data set to train and test your network. Discuss its performance.

In this project we want to see if it is possible to start with a network with large number of neurons and layers, and the prune it to a smaller network. Assume a data set where each pattern includes 25 data items. Design a network with 25-100-100-50-10 neurons. Consider a threshold for classifying a weighted input as significant. Discuss how we can reduce the size (width, depth) of the network.