# Deep Learning Lab Assignment

## Week 2

1. Implement Perceptron Algorithm for XOR Logic Gate with 2-bit Binary Input
2. Implement Perceptron Algorithm for XNOR Logic Gate with 2-bit Binary Input
3. Implement a single-layer perceptron using the “MNIST” dataset using the TensorFlow library
    a) Step1: Import necessary libraries
    b) Step 2: Now load the dataset using “Keras” from the imported version of tensor flow.
    c) Step 3: Now display the shape and image of the single image in the dataset.
    d) Step 4: Now normalize the dataset in order to compute the calculations in a fast and accurate manner.
    e) Step 5: Build a neural network with single-layer perceptron.
    f) Step 6: Evaluate the accuracy of the model on the testing data
4. Implement a multiple-layer perceptron using the “MNIST” dataset using the TensorFlow library
5. Implement Linear Regression Using Tensorflow V1 or V2. Generate random linear data and add uniform noise to it. In order to make the random numbers predictable, define fixed seeds for both Numpy and Tensorflow. Now define the hyperparameters of the model, the Learning Rate and the number of Epochs as learning_rate = 0.01
   training_epochs = 1000
   What are the obtained values of the training cost, weight and bias?