Deep Learning ECSE440L
Lab Assignment Week 5 – Practice + Exercises

Instructions:
• You can use any platform like Azure notebook, Google Colab for programming language platform for these Deep learning Programming problems
• Implementing multiple solutions and comparing their feasibility is highly encouraged.

Open link given below

https://tinyurl.com/DL-Lab-W5

The goal of this notebook is to learn how to design a Keras model to solve real life problems.

This notebook contains two datasets as diabetes.csv and black Friday (test.csv and train.csv).

Diabetes.ipynb: It is containing complete code for designing a neural network model to solve problem of predicting diabetes.

Assignment 1: Increase the accuracy of model by different means that you have learn in lectures.

Black_Friday.ipynb: It is containing code to load the data and split the data into training and testing set.

Assignment 2: Design a neural network model to predict the sale.

Optional question:

- What happens when you change the tanh activation for a sigmoid activation or a ReLU activation?
- Play with the epochs. What happens?
- What if we change the dataset?

By completing this assignment, you will:

- Build a complete neural network with a hidden layer
- Make a good use of a non-linear unit
- Implemented forward propagation and backpropagation, and trained a neural network
- See the impact of varying the hidden layer size, including overfitting.
- Develop an intuition of classification using neural network and see it work on data.
- Recognize that the more hidden layers you have the more complex structure you could capture.
- Combination of different helper functions to implement a full model with multiple hidden layer.