

Neural Network and Deep Learning
Lab # 3

Due Date: 14th April 2025

1. Run the following 2 – Layer Neural Network

[Code a 2-layer Neural Network from Scratch | by Hoang Nguyen | Medium](#)

2. Complete the following exercise using code from Question 1 (Show 5 Epoch and use all examples once). Initialize weights of 0.5 for Layer1 and 0.7 for layer 2. Plot # of Epoch versus Square Loss and Plot # of Epoch versus Cross Entropy Loss

F1	F2	F3	Class
1	7	8	A
3	6	7	A
2	2	4	B
1	2	3	B

3. Run the final trained model for the test examples below

F1	F2	F3	Class
10	3	-1	?
3	4	2	?
2	-3	4	?
1	0	3	?

4. Generalize (Question 1) for L-Layer Neural Network. Run the above example for 5 layers, 10 epoch.
 - (i) Squared Loss Function with ReLU activation function
 - (ii) Cross Entropy Loss Function with ReLU activation function
5. Understand and Run Example 2.6 from the book chapter of Assignment 3

Book Repository: [GitHub -](#)

[davidADSP/Generative Deep Learning 2nd Edition: The official code repository for the second edition of the O'Reilly book Generative Deep Learning: Teaching Machines to Paint, Write, Compose and Play.](#)