Assignment Questions:

You are given the iris dataset. 120 train examples. 30 test examples.

1. Create a simple softmax classifier with 3 neurons in output layer and no hidden layer. Save it as iris_softmax.py. [10 marks]

2. Create an MLP classifier with 3 hidden layers of sizes 5, 10, 5. Save it as iris_mlp.py. [10 marks]

3. Create a CNN classifier to classify the pathology images as foreground vs background. The CNN should follow this architecture: CONV layer with 16 3x3 filters with pad 1 stride 1, RELU, POOL 2x2 with stride 2, CONV layer with 8 3x3 filters with pad 1 stride 1, RELU, POOL 2x2 with stride 2, Dense layer of size 64, RELU. Save it as pathology_cnn.py. [10 marks]

4. You are given the reviews dataset. These are 194439 amazon reviews for cell phones and accessories taken from https://jmcauley.ucsd.edu/data/amazon/ Use the reviewText and overall fields from this file. Use fastText embeddings as mentioned in tutorial. Create BiLSTM with 1 layer and 100 as hidden layer size. Use dropout=0.1. Use 1 dense hidden layer of size 50 before the final output layer. Save it as reviews_lstm.py

For the Report:

- Report accuracy for all of the above in the report. To report the accuracy, run each of these codes 3 times and report mean and standard deviation on the test set.
- **You do not get marks without reporting accuracy in the report.**
- Name the report as **FirstName_LastName.pdf**. The report should also briefly describe how you solved the problem, with a max overall length of **2** pages.

Deadline:- 29th Aug 2021