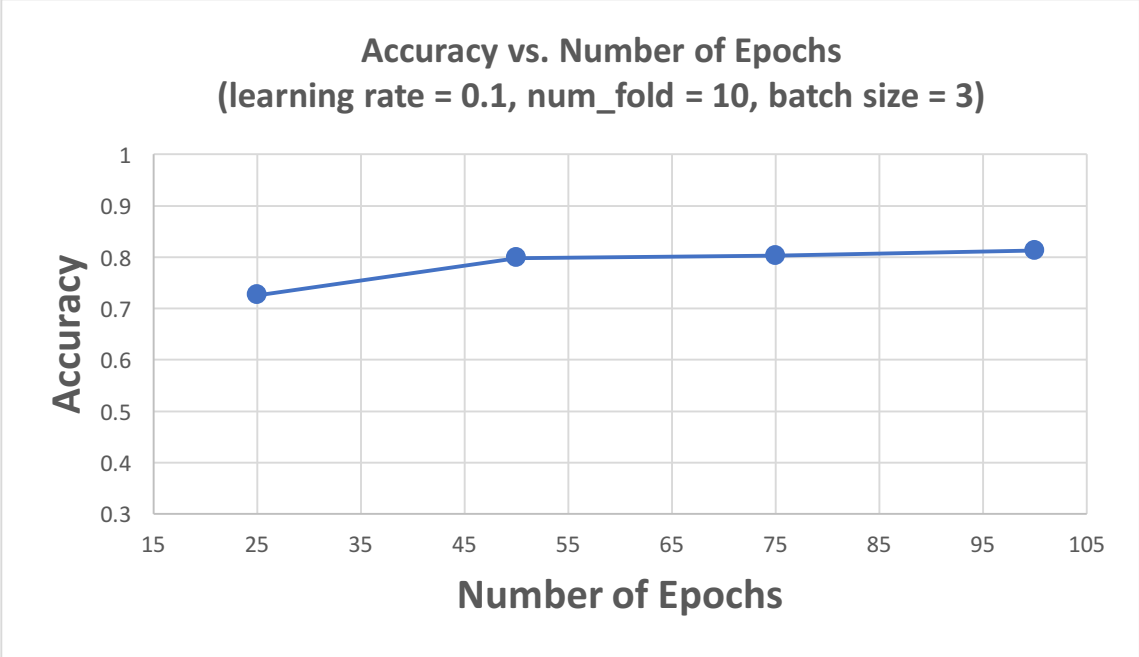
Homework 3 – Part B: Analysis

1. Plot accuracy of the neural network constructed for 25, 50, 75 and 100 epochs, with learning rate = 0.1, and number of folds = 10.

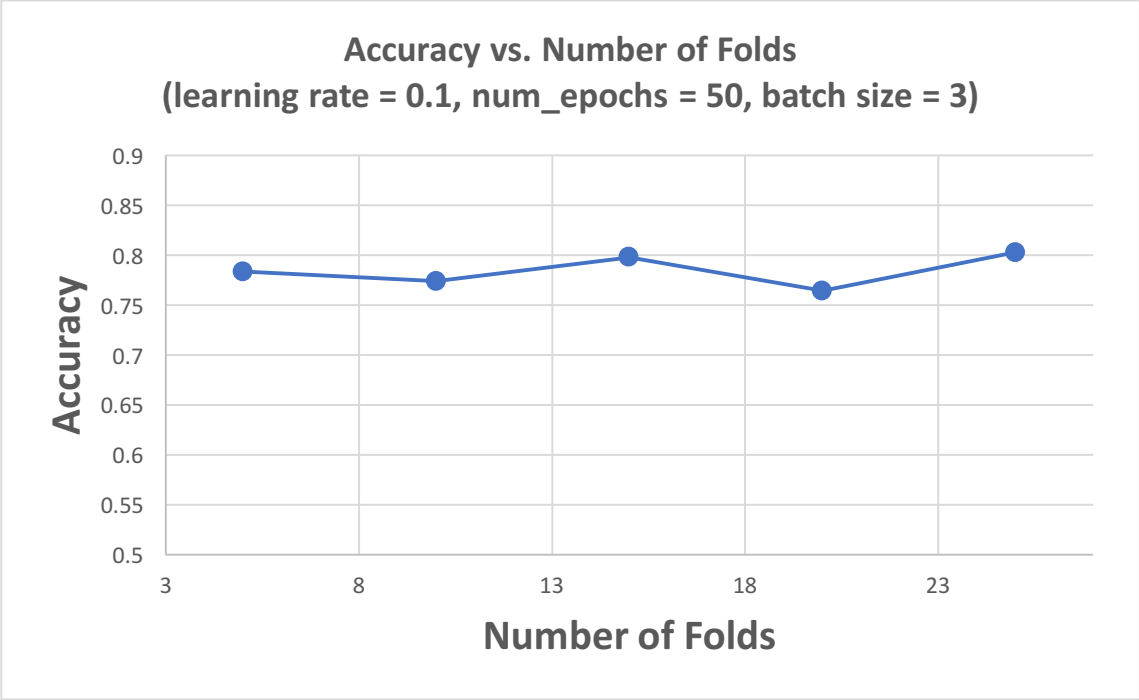
   For this plot, I used batch size = 3.



   I also notice that, the accuracy values fluctuate a lot in single run. So I also attached a figure showing the average, minimum and maximum from 50 runs at the end of this file. In that plot, there is a trend of accuracy increasing with number of epochs.

2. Plot accuracy of the neural network constructed with number of folds as 5, 10, 15, 20 and 25, with learning rate = 0.1, and number of epochs = 50.

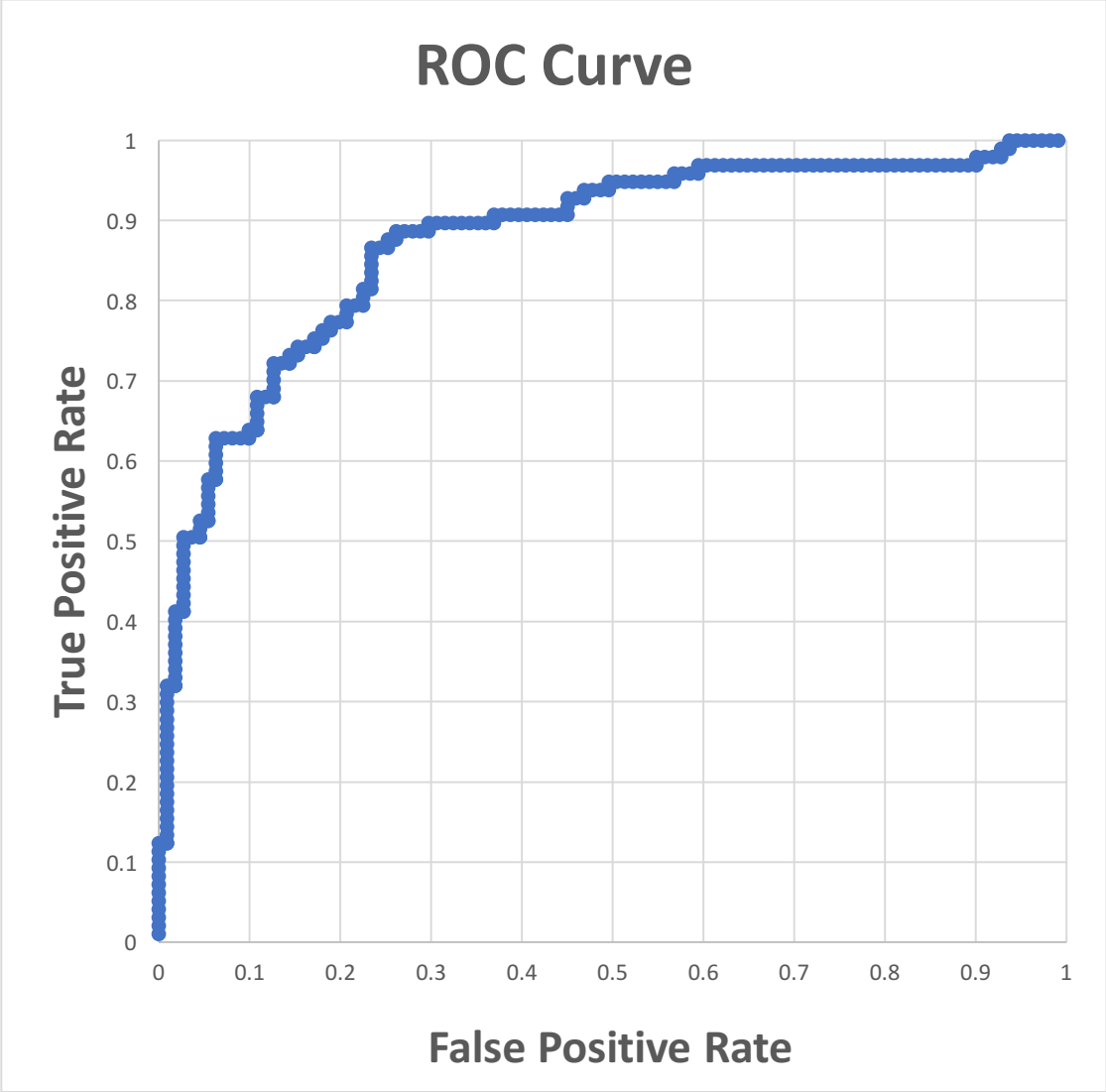
   For this plot, I used batch size = 3.



   Similarly, a plot that shows the average, minimum and maximum from 50 runs are shown at the end of this file.

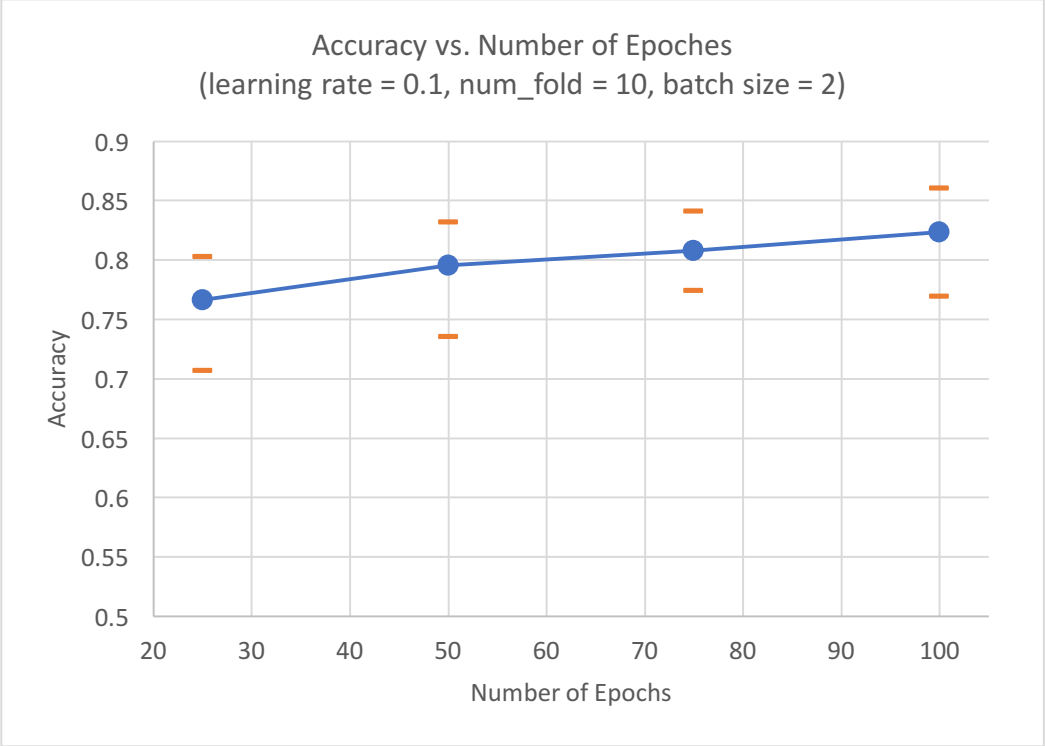
3. Plot ROC curve for the neural network constructed with the following parameters: learning rate = 0.1, number of epochs = 50, number of folds = 10.

   For this plot, I used the batch size = 2



Additional plots:

A1. The average/minimum/maximum accuracy vs number of epochs, from 50 repeated runs at each condition.



A2. The average/minimum/maximum accuracy vs number of folds, from 50 repeated runs at each condition.