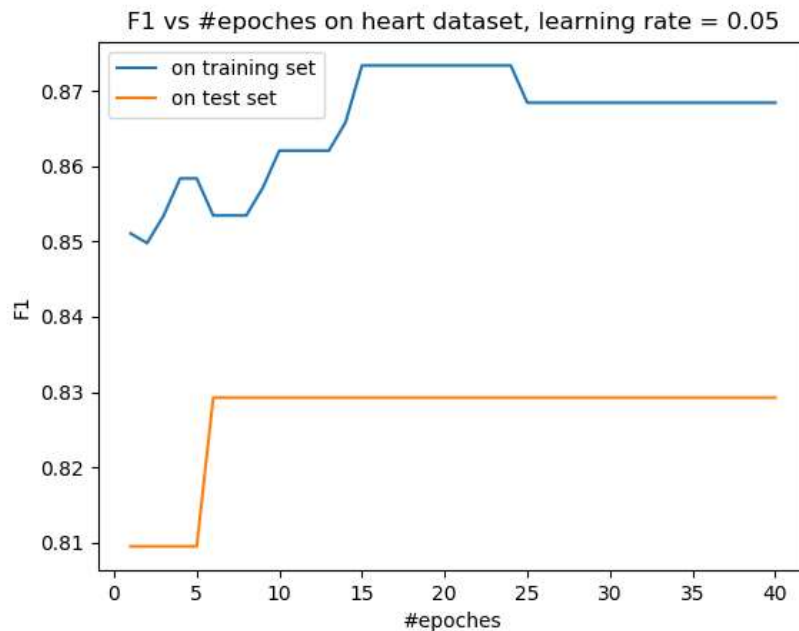


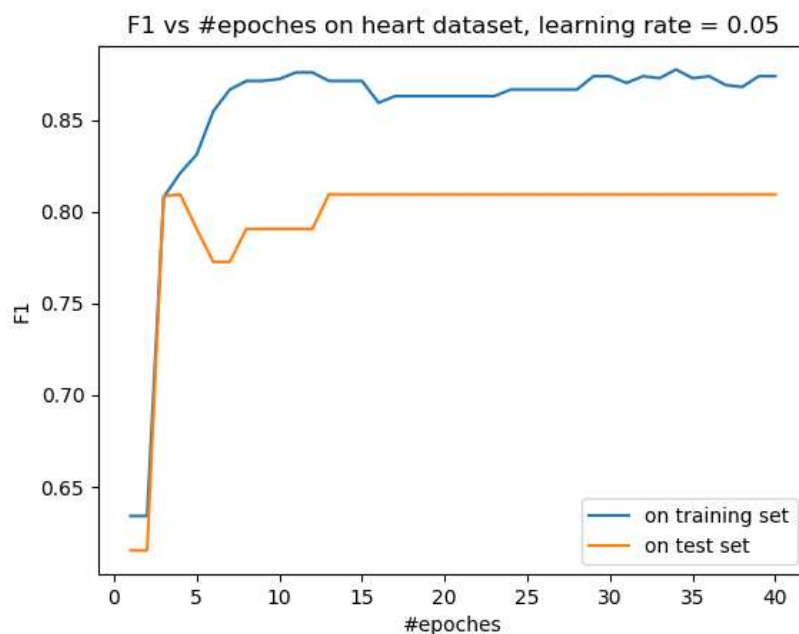
HW3

Wednesday, March 13, 2019 12:09 PM

Part3:



Graph1: Logistic regression, learning rate = 0.05, max epoch = 40



Graph2: NNET, learning rate = 0.05, max epoch = 40, #hidden units = 30

Findings: For Logistic Regression, F1 increases as #epoch increases, and F1 becomes stable if #epoch is large enough. For one hidden layer fully connected NNET, F1 increase on test set initially, then it drops, in the end climbs and become stable. As for on training set, F1 keeps oscillating after the initial large increment. Overfitting does not seem to happen as #epoch increases for Logistic Regression, but happens for one hidden layer fully connected NNET, as F1 increases on training set but decreases on test set. For this limited dataset and hyperparameter set, Logistic regression performs better than NNET in terms of F1. It is probably because I used too many hidden units(30) for fun.