Programming Exercise 5:

Neural Networks Learning

Machine Learning

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Question (1) **(30 points)**

Feedforward cost without regularization:

Cost J = 0.287629

Question (2) **(10 points)**

Feedforward cost with regularization:

Cost J = 0.383770

Question (3) **(10 points)**

Sigmoid gradient evaluated at [1 -0.5 0 0.5 1]:

Grad =

0.196612 0.235004 0.250000 0.235004 0.196612

Question (4) **(50 points)**

Train without regularization, predict the labels of the training set, get the training set accuracy (Default MaxIter = 50):

Accuracy = 94.640000 (regularization lines commented out)

Question (5) (Optional)

Train with regularization (lambda = 1), predict the labels of the training set, get the training set accuracy (Default MaxIter = 50):

Accuracy = 95.700000