

ECE 1395 Problem Set 7

Bryan Hess: 4259226

ps7-1-b.)

Accuracy of P: 98.00%

ps7-2-b.)

J_Table =

3×2 [table](#)

λ	J
—	—
0	0.20253
1	1.0751
2	1.9476

ps7-3.)

g_prime =

0.0000
0.2500
0.0000

ps7-4.)

Alpha: 0.010

ps7-5.)

```
Accuracy_table =
```

```
4×5 table
```

λ	Training Data Accuracy 50 Epochs	Testing Data Accuracy 50 Epochs	Training Data Accuracy 100 Epochs	Testing Data Accuracy 100 Epochs
0	67.969	59.091	96.094	90.909
0.01	67.188	86.364	83.594	95.455
0.1	67.969	59.091	64.844	77.273
1	67.969	59.091	64.844	77.273

```
Cost_table =
```

```
4×5 table
```

λ	Training Data Cost 50 Epochs	Testing Cost Accuracy 50 Epochs	Training Data Cost 100 Epochs	Testing Data Cost 100 Epochs
0	0.99834	1.0002	0.91801	0.8858
0.01	0.96732	0.89633	0.93093	0.87671
0.1	0.9946	1.1291	1.1424	1.0275
1	1.1422	1.8663	1.2714	1.9533

The accuracies are volatile on each run, however the costs stay relatively consistant.