~~~~~~~~~~~~~~~~~~~~~~~TestPenData~~~~~~~~~~~~~~~~~~~~~~~

------ # 0 neurons per hidden layer ------

Iteration # 1

Starting training at time 10:22:48.942000 with 16 inputs, 10 outputs, [0] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 10:25:51.005000 with training error 0.045019 and weight change 0.001615

Feed Forward Test correctly classified 0, incorrectly classified 3498, test percent error 0.000000

Iteration # 2

Starting training at time 10:25:51.144000 with 16 inputs, 10 outputs, [0] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 10:28:59.492000 with training error 0.045019 and weight change 0.001615

Feed Forward Test correctly classified 0, incorrectly classified 3498, test percent error 0.000000

Iteration # 3

Starting training at time 10:28:59.630000 with 16 inputs, 10 outputs, [0] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 10:31:57.064000 with training error 0.045019 and weight change 0.001615

Feed Forward Test correctly classified 0, incorrectly classified 3498, test percent error 0.000000

Iteration # 4

Starting training at time 10:31:57.241000 with 16 inputs, 10 outputs, [0] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 10:34:57.660000 with training error 0.045019 and weight change 0.001615

Feed Forward Test correctly classified 0, incorrectly classified 3498, test percent error 0.000000

Iteration # 5

Starting training at time 10:34:57.814000 with 16 inputs, 10 outputs, [0] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 10:37:55.156000 with training error 0.045019 and weight change 0.001615

Feed Forward Test correctly classified 0, incorrectly classified 3498, test percent error 0.000000

Iteration result:

Accuracy standard deviation 0.0

Accuracy average: 0.0

Max Accuracy 0.0

------ # 5 neurons per hidden layer ------

Iteration # 1

Starting training at time 10:37:55.441000 with 16 inputs, 10 outputs, [5] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 10:47:23.310000 with training error 0.005779 and weight change 0.000310

Feed Forward Test correctly classified 2905, incorrectly classified 593, test percent error 0.830475

Iteration # 2

Starting training at time 10:47:23.723000 with 16 inputs, 10 outputs, [5] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 10:56:19.558000 with training error 0.005981 and weight change 0.000345

Feed Forward Test correctly classified 2934, incorrectly classified 564, test percent error 0.838765

Iteration # 3

Starting training at time 10:56:19.838000 with 16 inputs, 10 outputs, [5] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 11:03:47.092000 with training error 0.005325 and weight change 0.000267

Feed Forward Test correctly classified 2987, incorrectly classified 511, test percent error 0.853917

Iteration # 4

Starting training at time 11:03:47.365000 with 16 inputs, 10 outputs, [5] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 11:10:59.974000 with training error 0.005949 and weight change 0.000317

Feed Forward Test correctly classified 2937, incorrectly classified 561, test percent error 0.839623

Iteration # 5

Starting training at time 11:11:00.248000 with 16 inputs, 10 outputs, [5] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 11:18:13.419000 with training error 0.005958 and weight change 0.000416

Feed Forward Test correctly classified 2898, incorrectly classified 600, test percent error 0.828473

Iteration result:

Accuracy standard deviation 0.00898474824201

Accuracy average: 0.838250428816

Max Accuracy 0.853916523728

------ # 10 neurons per hidden layer ------

Iteration # 1

Starting training at time 11:18:13.746000 with 16 inputs, 10 outputs, [10] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 11:30:25.073000 with training error 0.003778 and weight change 0.000104

Feed Forward Test correctly classified 3051, incorrectly classified 447, test percent error 0.872213

Iteration # 2

Starting training at time 11:30:25.488000 with 16 inputs, 10 outputs, [10] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 11:42:41.418000 with training error 0.003048 and weight change 0.000090

Feed Forward Test correctly classified 3089, incorrectly classified 409, test percent error 0.883076

Iteration # 3

Starting training at time 11:42:41.836000 with 16 inputs, 10 outputs, [10] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 11:54:56.431000 with training error 0.002901 and weight change 0.000129

Feed Forward Test correctly classified 3135, incorrectly classified 363, test percent error 0.896226

Iteration # 4

Starting training at time 11:54:56.919000 with 16 inputs, 10 outputs, [10] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 12:07:10.458000 with training error 0.002916 and weight change 0.000103

Feed Forward Test correctly classified 3108, incorrectly classified 390, test percent error 0.888508

Iteration # 5

Starting training at time 12:07:10.875000 with 16 inputs, 10 outputs, [10] hidden layers, size of training set 7494, and size of test set 3498

Finished after 200 iterations at time 12:19:26.556000 with training error 0.003099 and weight change 0.000104

Feed Forward Test correctly classified 3103, incorrectly classified 395, test percent error 0.887078

Iteration result:

Accuracy standard deviation 0.00786116740643

Accuracy average: 0.885420240137

Max Accuracy 0.896226415094

------ # 15 neurons per hidden layer ------

Iteration # 1

Starting training at time 12:19:27.138000 with 16 inputs, 10 outputs, [15] hidden layers, size of training set 7494, and size of test set 3498

Finished after 117 iterations at time 12:29:26.616000 with training error 0.002665 and weight change 0.000080

Feed Forward Test correctly classified 3149, incorrectly classified 349, test percent error 0.900229

Iteration # 2

Starting training at time 12:29:27.227000 with 16 inputs, 10 outputs, [15] hidden layers, size of training set 7494, and size of test set 3498

Finished after 163 iterations at time 12:43:17.567000 with training error 0.002556 and weight change 0.000080

Feed Forward Test correctly classified 3165, incorrectly classified 333, test percent error 0.904803

Iteration # 3

Starting training at time 12:43:18.165000 with 16 inputs, 10 outputs, [15] hidden layers, size of training set 7494, and size of test set 3498

Finished after 110 iterations at time 12:52:45.080000 with training error 0.002739 and weight change 0.000080

Feed Forward Test correctly classified 3168, incorrectly classified 330, test percent error 0.905660

Iteration # 4

Starting training at time 12:52:45.833000 with 16 inputs, 10 outputs, [15] hidden layers, size of training set 7494, and size of test set 3498

Finished after 180 iterations at time 13:08:08.604000 with training error 0.002608 and weight change 0.000080

Feed Forward Test correctly classified 3153, incorrectly classified 345, test percent error 0.901372

Iteration # 5

Starting training at time 13:08:09.203000 with 16 inputs, 10 outputs, [15] hidden layers, size of training set 7494, and size of test set 3498

Finished after 154 iterations at time 13:21:10.537000 with training error 0.003208 and weight change 0.000080

Feed Forward Test correctly classified 3123, incorrectly classified 375, test percent error 0.892796

Iteration result:

Accuracy standard deviation 0.00456545792514

Accuracy average: 0.900971983991

Max Accuracy 0.905660377358

------ # 20 neurons per hidden layer ------

Iteration # 1

Starting training at time 13:21:11.361000 with 16 inputs, 10 outputs, [20] hidden layers, size of training set 7494, and size of test set 3498

Finished after 109 iterations at time 13:34:03.247000 with training error 0.002563 and weight change 0.000080

Feed Forward Test correctly classified 3188, incorrectly classified 310, test percent error 0.911378

Iteration # 2

Starting training at time 13:34:04.242000 with 16 inputs, 10 outputs, [20] hidden layers, size of training set 7494, and size of test set 3498

Finished after 80 iterations at time 13:47:39.086000 with training error 0.003507 and weight change 0.000080

Feed Forward Test correctly classified 3104, incorrectly classified 394, test percent error 0.887364

Iteration # 3

Starting training at time 13:47:40.946000 with 16 inputs, 10 outputs, [20] hidden layers, size of training set 7494, and size of test set 3498

Finished after 82 iterations at time 14:01:25.446000 with training error 0.002754 and weight change 0.000080

Feed Forward Test correctly classified 3153, incorrectly classified 345, test percent error 0.901372

Iteration # 4

Starting training at time 14:01:26.515000 with 16 inputs, 10 outputs, [20] hidden layers, size of training set 7494, and size of test set 3498

Finished after 92 iterations at time 14:19:38.381000 with training error 0.002775 and weight change 0.000080

Feed Forward Test correctly classified 3153, incorrectly classified 345, test percent error 0.901372

Iteration # 5

Starting training at time 14:19:40.772000 with 16 inputs, 10 outputs, [20] hidden layers, size of training set 7494, and size of test set 3498

Finished after 79 iterations at time 14:33:32.605000 with training error 0.002772 and weight change 0.000079

Feed Forward Test correctly classified 3146, incorrectly classified 352, test percent error 0.899371

Iteration result:

Accuracy standard deviation 0.00765682591698

Accuracy average: 0.900171526587

Max Accuracy 0.911377930246

------ # 25 neurons per hidden layer ------

Iteration # 1

Starting training at time 14:33:33.813000 with 16 inputs, 10 outputs, [25] hidden layers, size of training set 7494, and size of test set 3498

Finished after 76 iterations at time 14:47:24.650000 with training error 0.002667 and weight change 0.000080

Feed Forward Test correctly classified 3179, incorrectly classified 319, test percent error 0.908805

Iteration # 2

Starting training at time 14:47:25.817000 with 16 inputs, 10 outputs, [25] hidden layers, size of training set 7494, and size of test set 3498

Finished after 66 iterations at time 14:58:44.863000 with training error 0.002770 and weight change 0.000079

Feed Forward Test correctly classified 3171, incorrectly classified 327, test percent error 0.906518

Iteration # 3

Starting training at time 14:58:46.035000 with 16 inputs, 10 outputs, [25] hidden layers, size of training set 7494, and size of test set 3498

Finished after 65 iterations at time 15:09:53.804000 with training error 0.002727 and weight change 0.000079

Feed Forward Test correctly classified 3180, incorrectly classified 318, test percent error 0.909091

Iteration # 4

Starting training at time 15:09:55.001000 with 16 inputs, 10 outputs, [25] hidden layers, size of training set 7494, and size of test set 3498

Finished after 77 iterations at time 15:23:09.398000 with training error 0.002827 and weight change 0.000079

Feed Forward Test correctly classified 3163, incorrectly classified 335, test percent error 0.904231

Iteration # 5

Starting training at time 15:23:10.574000 with 16 inputs, 10 outputs, [25] hidden layers, size of training set 7494, and size of test set 3498

Finished after 62 iterations at time 15:33:49.230000 with training error 0.002686 and weight change 0.000079

Feed Forward Test correctly classified 3157, incorrectly classified 341, test percent error 0.902516

Iteration result:

Accuracy standard deviation 0.00255696738422

Accuracy average: 0.906232132647

Max Accuracy 0.909090909091

------ # 30 neurons per hidden layer ------

Iteration # 1

Starting training at time 15:33:50.536000 with 16 inputs, 10 outputs, [30] hidden layers, size of training set 7494, and size of test set 3498

Finished after 65 iterations at time 15:48:39.379000 with training error 0.002799 and weight change 0.000080

Feed Forward Test correctly classified 3163, incorrectly classified 335, test percent error 0.904231

Iteration # 2

Starting training at time 15:48:41.259000 with 16 inputs, 10 outputs, [30] hidden layers, size of training set 7494, and size of test set 3498

Finished after 53 iterations at time 16:05:26.442000 with training error 0.002885 and weight change 0.000080

Feed Forward Test correctly classified 3117, incorrectly classified 381, test percent error 0.891081

Iteration # 3

Starting training at time 16:05:28.091000 with 16 inputs, 10 outputs, [30] hidden layers, size of training set 7494, and size of test set 3498

Finished after 61 iterations at time 16:22:25.021000 with training error 0.003005 and weight change 0.000080

Feed Forward Test correctly classified 3120, incorrectly classified 378, test percent error 0.891938

Iteration # 4

Starting training at time 16:22:26.661000 with 16 inputs, 10 outputs, [30] hidden layers, size of training set 7494, and size of test set 3498

Finished after 51 iterations at time 16:35:43.091000 with training error 0.003061 and weight change 0.000079

Feed Forward Test correctly classified 3125, incorrectly classified 373, test percent error 0.893368

Iteration # 5

Starting training at time 16:35:44.744000 with 16 inputs, 10 outputs, [30] hidden layers, size of training set 7494, and size of test set 3498

Finished after 62 iterations at time 16:52:41.422000 with training error 0.002674 and weight change 0.000080

Feed Forward Test correctly classified 3177, incorrectly classified 321, test percent error 0.908233

Iteration result:

Accuracy standard deviation 0.00706204581207

Accuracy average: 0.897770154374

Max Accuracy 0.908233276158

------ # 35 neurons per hidden layer ------

Iteration # 1

Starting training at time 16:52:43.619000 with 16 inputs, 10 outputs, [35] hidden layers, size of training set 7494, and size of test set 3498

Finished after 44 iterations at time 17:05:32.355000 with training error 0.003047 and weight change 0.000079

Feed Forward Test correctly classified 3186, incorrectly classified 312, test percent error 0.910806

Iteration # 2

Starting training at time 17:05:34.262000 with 16 inputs, 10 outputs, [35] hidden layers, size of training set 7494, and size of test set 3498

Finished after 60 iterations at time 17:24:11.101000 with training error 0.002863 and weight change 0.000080

Feed Forward Test correctly classified 3168, incorrectly classified 330, test percent error 0.905660

Iteration # 3

Starting training at time 17:24:13.016000 with 16 inputs, 10 outputs, [35] hidden layers, size of training set 7494, and size of test set 3498

Finished after 49 iterations at time 17:37:31.214000 with training error 0.002772 and weight change 0.000080

Feed Forward Test correctly classified 3162, incorrectly classified 336, test percent error 0.903945

Iteration # 4

Starting training at time 17:37:33.074000 with 16 inputs, 10 outputs, [35] hidden layers, size of training set 7494, and size of test set 3498

Finished after 49 iterations at time 17:49:39.528000 with training error 0.002960 and weight change 0.000079

Feed Forward Test correctly classified 3161, incorrectly classified 337, test percent error 0.903659

Iteration # 5

Starting training at time 17:49:41.085000 with 16 inputs, 10 outputs, [35] hidden layers, size of training set 7494, and size of test set 3498

Finished after 51 iterations at time 18:02:08.767000 with training error 0.002923 and weight change 0.000079

Feed Forward Test correctly classified 3106, incorrectly classified 392, test percent error 0.887936

Iteration result:

Accuracy standard deviation 0.00767431068522

Accuracy average: 0.902401372213

Max Accuracy 0.910806174957

------ # 40 neurons per hidden layer ------

Iteration # 1

Starting training at time 18:02:10.510000 with 16 inputs, 10 outputs, [40] hidden layers, size of training set 7494, and size of test set 3498

Finished after 46 iterations at time 18:18:02.189000 with training error 0.002921 and weight change 0.000080

Feed Forward Test correctly classified 3107, incorrectly classified 391, test percent error 0.888222

Iteration # 2

Starting training at time 18:18:05.998000 with 16 inputs, 10 outputs, [40] hidden layers, size of training set 7494, and size of test set 3498

Finished after 51 iterations at time 18:36:54.836000 with training error 0.002752 and weight change 0.000079

Feed Forward Test correctly classified 3180, incorrectly classified 318, test percent error 0.909091

Iteration # 3

Starting training at time 18:36:56.814000 with 16 inputs, 10 outputs, [40] hidden layers, size of training set 7494, and size of test set 3498

Finished after 49 iterations at time 18:51:21.251000 with training error 0.002940 and weight change 0.000080

Feed Forward Test correctly classified 3138, incorrectly classified 360, test percent error 0.897084

Iteration # 4

Starting training at time 18:51:23.104000 with 16 inputs, 10 outputs, [40] hidden layers, size of training set 7494, and size of test set 3498

Finished after 47 iterations at time 19:05:16.417000 with training error 0.003026 and weight change 0.000080

Feed Forward Test correctly classified 3163, incorrectly classified 335, test percent error 0.904231

Iteration # 5

Starting training at time 19:05:18.267000 with 16 inputs, 10 outputs, [40] hidden layers, size of training set 7494, and size of test set 3498

Finished after 47 iterations at time 19:18:17.406000 with training error 0.002949 and weight change 0.000079

Feed Forward Test correctly classified 3150, incorrectly classified 348, test percent error 0.900515

Iteration result:

Accuracy standard deviation 0.00704118437144

Accuracy average: 0.899828473413

Max Accuracy 0.909090909091