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1 "C:\Program Files\Anaconda3\python.exe" C:/Users/anant/OneDrive/Documents/Niveditha/PSU/
  Spring2018/ML/ProgrammingAssignments/mnistPerceptronVectorized_edit1.py
2 Learning Rate : 0.001
3 Epoch Number : 0
4 Accuracy for training set : 11.27
5 Accuracy for testing set : 11.21
6 Epoch Number : 1
7 Accuracy for training set : 81.82
8 Accuracy for testing set : 84.03
9 Epoch Number : 2
10 Accuracy for training set : 84.88
11 Accuracy for testing set : 85.69
12 Epoch Number : 3
13 Accuracy for training set : 85.22
14 Accuracy for testing set : 84.28
15 Epoch Number : 4
16 Accuracy for training set : 85.49
17 Accuracy for testing set : 84.85
18 Epoch Number : 5
19 Accuracy for training set : 85.57
20 Accuracy for testing set : 85.42
21 Epoch Number : 6
22 Accuracy for training set : 85.67
23 Accuracy for testing set : 85.18
24 Epoch Number : 7
25 Accuracy for training set : 85.8
26 Accuracy for testing set : 82.56
27 Epoch Number : 8
28 Accuracy for training set : 85.75
29 Accuracy for testing set : 85.24
30 Confusion Matrix for Learning Rate : 0.001
31 [[ 961    0    0    0    0   12    3    3    1    0]
32  [  24 1099    1    2    0    1    4    1    3    0]
33  [ 228   43  654   55    8    6   14    9   12    3]
34  [   98    2   13  865    1   19    2    7    2    1]
35  [ 125    1    3    3  760    1   29    4    5   51]
36  [ 187    5    0   57   14  601   10    4    7    7]
37  [   61    4    4    1    4   52  831    1    0    0]
38  [   76    6   12   38   18    3    0  868    3    4]
39  [ 477   14    2   39   12   15   20    7  386    2]
40  [ 112    4    0   14   27    7    2   76    3  764]]
41 Learning Rate : 0.01
42 Epoch Number : 0
43 Accuracy for training set : 9.59
44 Accuracy for testing set : 10.13
45 Epoch Number : 1
46 Accuracy for training set : 82.71
47 Accuracy for testing set : 78.6
48 Epoch Number : 2
49 Accuracy for training set : 84.59
50 Accuracy for testing set : 79.58
51 Epoch Number : 3
52 Accuracy for training set : 84.87
53 Accuracy for testing set : 80.96
54 Epoch Number : 4
55 Accuracy for training set : 85.25
56 Accuracy for testing set : 83.38
57 Epoch Number : 5
58 Accuracy for training set : 85.2
59 Accuracy for testing set : 80.31
60 Confusion Matrix for Learning Rate : 0.01
61 [[ 971    0    1    4    0    1    2    0    1    0]
62  [  18 1076    2   21    0    3    1    2   12    0]
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63 [ 198      6 648 141      4      4      13      4      10      4]
64 [   43      0  14 936      0      3      0      6      3      5]
65 [   64      0   7  12 801      0     14      1      9     74]
66 [ 230      2   5 156     12  430      6     10     25     16]
67 [ 117      3   5   0      4     58   768      1      2      0]
68 [   57      2  13   96     10      1      1   812      1     35]
69 [ 242      7   7 223     12      6      8      3   432     34]
70 [   27      1   1   76     19      0      3     69     21  792]]
71 Learning Rate : 0.1
72 Epoch Number : 0
73 Accuracy for training set : 6.93
74 Accuracy for testing set : 7.19
75 Epoch Number : 1
76 Accuracy for training set : 82.5
77 Accuracy for testing set : 82.27
78 Epoch Number : 2
79 Accuracy for training set : 84.66
80 Accuracy for testing set : 81.36
81 Epoch Number : 3
82 Accuracy for training set : 84.96
83 Accuracy for testing set : 84.51
84 Epoch Number : 4
85 Accuracy for training set : 85.15
86 Accuracy for testing set : 81.85
87 Epoch Number : 5
88 Accuracy for training set : 85.46
89 Accuracy for testing set : 81.0
90 Epoch Number : 6
91 Accuracy for training set : 85.29
92 Accuracy for testing set : 83.35
93 Confusion Matrix for Learning Rate : 0.1
94 [[ 975      0      0      0      0      1      2      1      1      0]
95 [    9 1111      3      1      0      2      3      1      4      1]
96 [ 108   100  745     40      6      0      5      2     18      8]
97 [   81      4   37  864      0      3      2      3      5     11]
98 [   52      0    5    0  850      0      7      0      6     62]
99 [ 307      3      3   45     10  419     14      3     35     53]
100 [   62      4   48      0      5     67   766      0      5      1]
101 [   65      8   36   52     12      0      1   789      5     60]
102 [ 265     25      5   26     16      3      7      2   580     45]
103 [   39      3      2   16     38      2      0     10     15   884]]
104
105 Process finished with exit code 0
106
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