

Question 5:

Average PenData: 0.902173 Average CarsData 0.848168

Max PenData: 0.909949 Max CarsData 0.873037

Std PenData: 0.009190 Std CarsData 0.014901

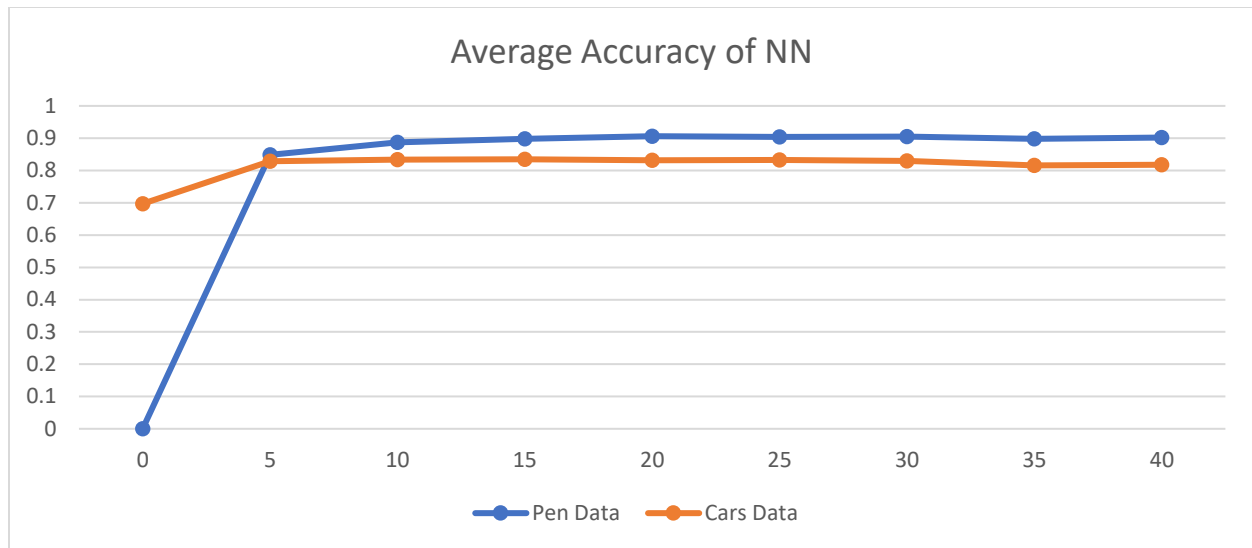
Question 6:

Pen Data Set

No. of Hidden Layers	Average	Max	Standard Deviation
0	0.000000	0.000000	0.000000
5	0.848656	0.855346	0.004713
10	0.887136	0.897084	0.007451
15	0.897827	0.905946	0.006952
20	0.906175	0.911092	0.003211
25	0.904174	0.910520	0.006809
30	0.905089	0.909091	0.003168
35	0.898228	0.906804	0.005342
40	0.901715	0.902802	0.000637

Cars Data Set

No. of Hidden Layers	Average	Max	Standard Deviation
0	0.696990	0.696990	0.000000
5	0.829058	0.842277	0.012733
10	0.833901	0.841623	0.006510
15	0.834686	0.841623	0.005359
20	0.832068	0.843586	0.008448
25	0.832592	0.841623	0.006881
30	0.829450	0.834424	0.005130
35	0.816230	0.829843	0.008354
40	0.817408	0.835733	0.012791



Analysis: These charts show that increasing the number of hidden layers greatly increases performance from 0 to 5 and then slightly more from 5 to 10, but beyond that, increasing the number of hidden layers provides no noticeable improvement to the neural network's accuracy.