**Question 5**

Results for this question can be found in “Q5-8 Data and Figures” under “Question 5”.

**Question 6**

For both the pen and car datasets, test accuracy is lowest when there is no hidden layer, and then it grows dramatically when number of neurons in the hidden layer increases from 0 to 5. After a while, however, test accuracy does not grow as number of neurons increases. For the pen data, test accuracy reaches peaks at n = 15, followed by a slight drop, but as n increases past 25, test accuracy stabilizes at about 0.90. For car data, test accuracy reaches its highest point at n = 5, followed by a slight drop with some fluctuation for n between 15 and 20. After that, the test accuracy became stable at approximately 0.85.

**Question 7**

Initially, when there is no hidden layer, average accuracy was 0.4; however, as the number of neurons in the hidden layer increases, average accuracy grows as well, with average accuracy reaching 1.0 at 48 neurons. This matches what I would have expected, because more neurons will result in more connections and when the neural network is backpropogating, delta changes with respect to the last layer will be adjusted more accurately.

**Question 8**

Results for this question can be found in “Q5-8 Data and Figures” under “Question 8”.