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Assignment III

Simple Neural-Network with Back-Propogation:
On training the neural-network(NN topology784-300-10) with 60,000 images, an accuracy of **98.3%** is observed while labeling the novel images.

For 5 Fold cross validation the accuracy dropped to **94.3%.**

As the number of iterations are increasing, the Cost-Function or the criterion function $J(w1,w2) = 0.5*(Z-T)^2$ is decreasing.

The number of neurons in the hidden-layer is having a very small affect on the percentage of accuracy.
1. number of neurons in the hidden-layer=100, then Accuracy=95.0%
1. number of neurons in the hidden-layer=300, then Accuracy=98.3%