Assignment 1

## 4. Explain what a residual network is, and the basic motivation for using it. Also explain what the main elements of resnet34 are and resnet50. How many layers, how many neurons total, how many weights; and then anything else you want to say.

## 5. Transfer learning using Fast.ai and create\_cnn: Please explain how pretrained resnet34 is modified to get the network that the notebook ultimately trains (i.e., explain what are the last layers that are added).

## 6. Download a NOT pre-trained resnet34, and then by playing with the number of epochs and learning rates (possibly different learning rates across layers), see how low you can get the error. Can you get below 20%?

## 7. And for the main part of this HW: download (and label) your own data set of your choice, create a classification problem, and then use the main tools/ideas of this notebook to build a classifier. It does not need to be a multi-label classifier.

## For getting data, you may want to refer to the discussion here, for various tools that could be useful: https://forums.fast.ai/t/tips-for-building-large-image-datasets/26688/

## 36.

Data was pulled based on