CS 216 Homework

Zachary DeStefano, 15247592

Due Date: May 9, 2014 in class

Problem 1

k-Means Clustering results

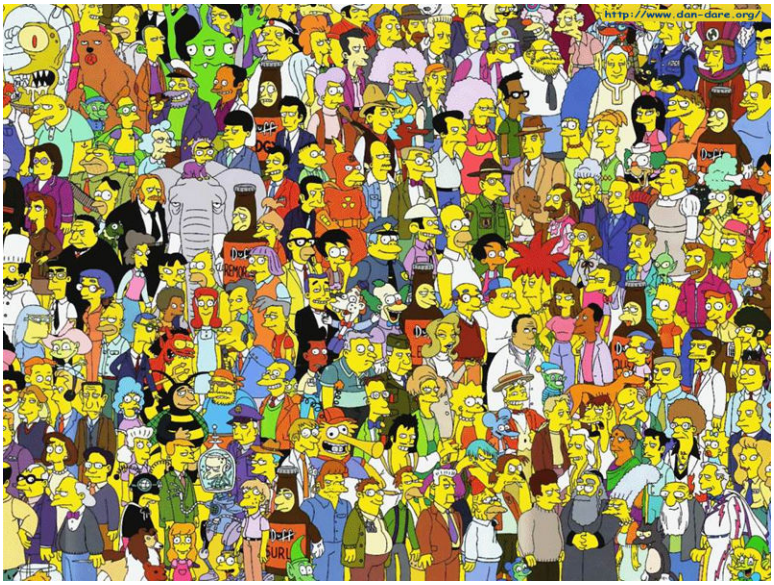

Figure 1: Original Image

Figure 2: The k-Means Image when $k = 2$

Figure 3: The k-Means Image when $k = 5$

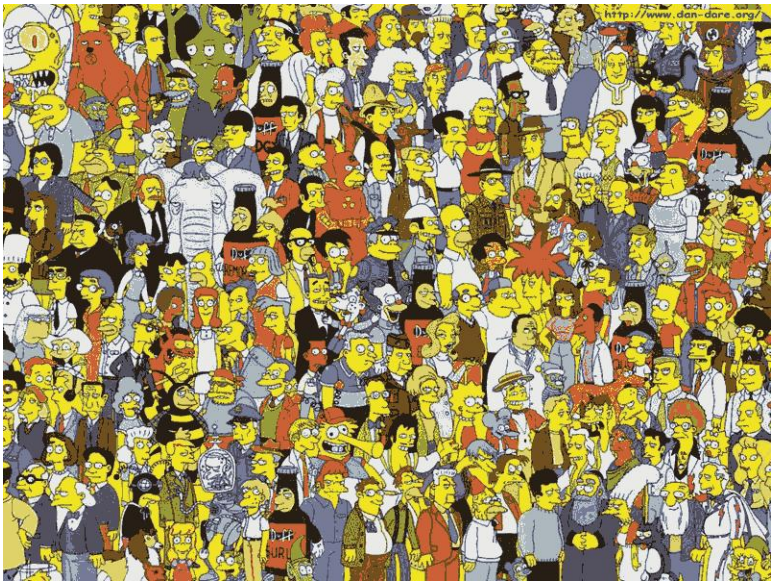

Figure 4: The k-Means Image when $k = 10$

Result when skewing the Red Channel

If we multiply the red channel by 100, then the mean will tend more toward the red channel than the other channels. The result will be a red tint on the final result image. That is exactly what happened with the following images which are the same k-means images as above but the red channel was multiplied by 100 before k-Means was done.

Figure 5: The k-Means Image when $k = 2$ and a skewed red channel

Figure 6: The k-Means Image when $k = 5$ and a skewed red channel

Figure 7: The k-Means Image when $k = 10$ and a skewed red channel