# Assignment 3 Report

The output images are located at /<image>-<k>-out.png

## Q. What are the compression ratios for different values of K? Note that you have to repeat the experiment multiple times with different initializations and report the average as well as variance in the compression ratio.

The file size results are stored in Compression-Rate.xls (attached below) along with the compression ratios.



For each k value, the program was run 5 times and the size used to calculate the reported

Compression ratio was the average of the 5.

## Q. Is there a tradeoff between image quality and degree of compression? What would be a good value of K for each of the two images?

Yes there is a tradeoff between image quality and degree of compression. Higher quality

Images result in higher file sizes. For the Koala.png a K of 20 does a good job as there are not very many colors in the picture. However for the Penguins.png we can go till 30 to find a good quality image, this is because of greater colors separations in Penguins.png. After K=20 for Koala.png and K=30 for Penguins.png, we see that increasing K gives much smaller increase in quality.