REPORT for CISC 484 HW3

Concerning the relationship between k and the size of the new image:

Lower values of k are associated with smaller file sizes. As the k's increase, so does the file's size. This only holds up to a certain k. Eventually, around k = 5 for the 3 pictures, increasing k does not increase the file size, and so the file size remains approximately the same for larger k's.

Best k for picture 1:

I think the best k for picture 1 is 20 because all k's less than this don't capture enough complexity of the picture, and k = 20 is around the same size as k = 10 and k = 5.

Best k for picture 2:

I think that k = 20 is the best k for picture 2 because it captures the most detail and has a very similar file size to k = 10 and k = 5 which both provide less detail than k = 20.

Best k for picture 3:

I think that the best k for picture 3 is 20 because it is very close to the actual image and has a very similar file size to k = 5 and k = 10, which both provide less detail than k = 20.

Reflection on k choices for pictures:

I think that because the 3 pictures were of outside and captured a variety of things, higher values of k were required to make the picture clear and distinguish details.

Justification for test2, k = 2:

While k = 2 splits the picture into only 2 colors, our program splits the image into its two main clusters of colors, a black rectangle in the center (with some shadows), and a whiteish background. For that reason, we believe our program accurately split up the initial image into 2 colors. (Images shown below on next page, k = 2 then original)