

Image 1

k = 3, iters=5, R = 7



Image 2

k = 3, iters=5, R = 7



Image 3

k = 3, iters=5, R = 7



Image 1

k = 5, iters=15, R = 15



Image 2

k = 5, iters=15, R = 15



Image 3

k = 5, iters=15, R = 15



Image 1

k = 7, iters=5, 30 R= 20



Image 2

k = 7, iters=5, 30 R= 20



Image 3

k = 7, iters=5, 30 R= 20



Jared Kinner  
4396828  
ps1\_report

## Observations

My first observation is that there is a far more noticeable difference between  $k=3 \rightarrow k=5$  than there is from  $k=5 \rightarrow k=7$ . I think part of this is due to the size of the images. Part of shrinking the image down to  $100 \times 100$  is reducing its original complexity.

I tried running an iteration of  $k=7$  with a full size version of image 3, but then couldn't tell if it had actually worked at all



Something else I noticed was that even with the shrunk images the runtimes on the versions with larger  $K$ ,  $iters$ , and  $R$  values were bad. It took nearly ten minutes for my laptop to run the  $K=7$  with the full sized image 3. Curious to know if my code could be optimized or if its just the nature of the amount of for loops that slows the code down regardless of implementation.